

=> fil reg; d stat que 112; fil bapl; d que nos 123; d que nos 124; d que nos 126; d que nos 128; d que nos 142

FILE 'REGISTRY' ENTERED AT 14:57:44 ON 13 AUG 2002

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STRUCTURE FILE UPDATES: 12 AUG 2002 HIGHEST FN 443729-39-3

DICTIONARY FILE UPDATES: 12 AUG 2002 HIGHEST FN 443729-39-3

CAS INFORMATION NOW CURRENT THROUGH MAY 20, 2002

Please note that search-term pricing does apply when conducting SmartSELECT searches.

Cross-over limits have been increased. See HELP CROSSOVER for details.

Calculated physical property data is now available. See HELP PROPERTIES for more information. See STNote 27, Searching Properties in the CAS Registry File, for complete details:

<http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf>

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L:      CTR
      15
      G3
      G Ak      Ak @14
      4 5 06      7 33      @12 13
      G3 Si G4
      9 @10 11

      19      23      26
      H      G3      H
      G1 CH2 G5 CH2 G2
      1 2 28 29 3
      H Si G4      H Si G4      G3 Si G4
      16 @17 18      19 @21 23      24 @25 27
  
```

AK = alkyl

Hg = heterocyclic

VAF G1=6/11H/X/8
VAF G2=10/17/11,13
VAF G3=12/14/X
VAF G4=12/X

REP G5=(0-8) CHL

MOLE ATTRIBUTES:

CONNECT IS E1 FC AT 7

CONNECT IS E1 FC AT 13

CONNECT IS E1 FC AT 14

DEFAULT MLEVEL IS ATOM

GAAT IS LOO SAT AT

DEFAULT ECLEVEL IS LIMITED

ECOUNT IS E1 O AT 4

> Hg at node 4 is saturated, & has exactly one oxygen

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 11

STEREO ATTRIBUTES: NONE

L1C SER 2006 AND 1006

L1C 8068 SEA FILE=REGISTRY SSS FUL L8 AND L10

100.0% PROCESSED 23912 ITERATIONS

8068 ANSWERS

SEARCH TIME: 10.00.25

FILE 'CAPLUS' ENTERED AT 14:57:44 ON 12 AUG 2002
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FILE COVERS: 1967 - 12 Aug 2002 VOL 137 ISS 7
 FILE LAST UPDATED: 12 Aug 2002 (20020812/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

CAS roles have been modified effective December 16, 2001. Please check your SDI profiles to see if they need to be revised. For information on CAS roles, enter HELP ROLES at an arrow prompt or use the CAS Roles thesaurus (/RL field) in this file.

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LN      STF
L10     SCF 2026 AND 1006
L11     8068 SEA FILE=REGISTRY SSS FUL L8 AND L10
L12     11401 SEA FILE=CAPLUS ABB=ON L12
L13     2317 SEA FILE=CAPLUS ABB=ON SOLID SUPPORT# OBI
L14     6866 SEA FILE=CAPLUS ABB=ON MICROARRAY?/OBI OR MICRO(L)ARRAY?/OBI
L15     20 SEA FILE=CAPLUS ABB=ON L13(L) L15
L16     17 SEA FILE=CAPLUS ABB=ON L13(L) L17
L23     4 SEA FILE=CAPLUS ABB=ON (L19 AND L17) OR (L10 AND L15)
  
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LN      STF
L10     SCF 2026 AND 1006
L11     8068 SEA FILE=REGISTRY SSS FUL L8 AND L10
L12     11401 SEA FILE=CAPLUS ABB=ON L12
L13     2317 SEA FILE=CAPLUS ABB=ON SOLID SUPPORT# OBI
L14     6866 SEA FILE=CAPLUS ABB=ON MICROARRAY?/OBI OR MICRO(L)ARRAY?/OBI
L15     20 SEA FILE=CAPLUS ABB=ON L13(L) L15
L16     17 SEA FILE=CAPLUS ABB=ON L13(L) L17
L24     12 SEA FILE=CAPLUS ABB=ON (L19 OR L20) AND 9/NO, SX
  
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-Section one 9 =

Biotechnical Abstracts

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LN      STF
L10     SCF 2026 AND 1006
L11     8068 SEA FILE=REGISTRY SSS FUL L8 AND L10
L12     11401 SEA FILE=CAPLUS ABB=ON L12
L13     2317 SEA FILE=CAPLUS ABB=ON SOLID SUPPORT# OBI
L14     6866 SEA FILE=CAPLUS ABB=ON MICROARRAY?/OBI OR MICRO(L)ARRAY?/OBI
L15     737 SEA FILE=CAPLUS ABB=ON L13(L)ANST/RL
L26     12 SEA FILE=CAPLUS ABB=ON (L15 OR L17) AND L25
  
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-Rel. FAST = analytical study

L8 STF
 L10 SCF 2026 AND 1006
 L11 8068 SEA FILE=REGISTRY SSS FUL L8 AND L10
 L12 21401 SEA FILE=CAPLUS ABB=CN L12
 L13 737 SEA FILE=CAPLUS ABB=CN L12(L)ANST PL
 L14 240408 SEA FILE=CAPLUS ABB=CN MICROF0/OBI
 L15 135099 SEA FILE=CAPLUS ABB=CN ENA-OLD CT
 L16 144371 SEA FILE=CAPLUS ABB=CN ENA-OLD CT
 L17 6007 SEA FILE=CAPLUS ABB=CN IDENTIFIER CT
 L18 200497 SEA FILE=CAPLUS ABB=CN POLYSACCHARIDES+OLD CT
 L19 101081 SEA FILE=CAPLUS ABB=CN L111ES+OLD CT
 L20 10416 SEA FILE=CAPLUS ABB=CN COVALENT/OBI
 L21 8580 SEA FILE=CAPLUS ABB=CN L11 OF L21 OR L13 OR L34 OR L35) (L) (L2
 7 OR L36)
 L22 9 SEA FILE=CAPLUS ABB=CN L2 AND L21

L8 STF
 L10 SCF 2026 AND 1006
 L11 8068 SEA FILE=REGISTRY SSS FUL L8 AND L10
 L12 21401 SEA FILE=CAPLUS ABB=CN L12
 L13 737 SEA FILE=CAPLUS ABB=CN MICRO SUPP EGT# OBI
 L14 200410 SEA FILE=CAPLUS ABB=CN MICROFIL12 OBI
 L15 6006 SEA FILE=CAPLUS ABB=CN MICROARRAY/OBI OR MICRO(L)ARRAY?/OBI
 L16 641 SEA FILE=CAPLUS ABB=CN L11(L) L13 OR L16 OF L17)
 L17 737 SEA FILE=CAPLUS ABB=CN L11(L)ANST PL
 L18 1 SEA FILE=REGISTRY ABB=CN CYTOSINE/CN
 L19 1 SEA FILE=REGISTRY ABB=CN GUANINE/CN
 L20 101081 SEA FILE=CAPLUS ABB=CN L11 OF CYTOSINE/OBI
 L21 20497 SEA FILE=CAPLUS ABB=CN L11 OF GUANINE/OBI
 L22 8 SEA FILE=CAPLUS ABB=CN L11 OF L11) AND (L41 OR L42)

= s 123 or 124 or 126 or 138 or 143

L49 41 L23 OR L24 OF L11 OR L33 OR L41

= d ihib ans histstr 145 1-41; rll hcm

L40 ANSWER 1 OF 41 CAPLUS COPYRIGHT 2000 AAI

ABSESSON NUMBER: 1002:466034 CAPLUS

DOCUMENT NUMBER: 137:43915

TITLE: Method of attaching a biopolymer to a solid support
using bromoacetamidoxilanes to functionalize the
support

INVENTOR(S): Pirrung, Michael S.; Edenbaugh, Amy L.; Connors,
Richard V.; Worden, John D.

PATENT ASSIGNEE(S): USA

SOURCE: U.S. Pat. Appl. Publ., 13 pp.

COLEN: USXCTD

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NR4. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2002076832	A1	20010610	US 2001-371691	20010604
PRIORITY APPLN. INFO.:			US 2000-208493P	P 20000602
OTHER SOURCE(S):		MAFFAT 137:43915		

AB The present invention relates, in general, to a method of attaching a biopolymer to a solid support and, in particular, to a method of attaching a nucleic acid to a glass surface, and to reagents suitable for use in such a method. The invention further relates to the product produced by the present method and to kits comprising same. Clean microscope slides were silanized with N-(3-diethoxymethylsilylpropyl)bromoacetamide (prepn. given). Four oligonucleotides differing in only the nucleotide at their 5'-, 3'-ends were arrayed. When the array was treated with polymerase and fluoresceinated terminator, specific labeling of only the primer with perfect complementarity to the template was obsd.

IN 3179-76-8, (3-Aminopropyl)methyldiethoxysilane 18306-79-1
, 3-Aminopropyldimethylethoxysilane

RL: RCT (Reactant); RACT (Reactant or reagent)

(method of attaching biopolymers to **solid supports**)

(using bromoacetamidossilanes to functionalize supports)

EN 3179-76-8 CAPLUS

TI 1-Propanamine, 3-(diethoxymethylsilyl)- (9CI) (CA INDEX NAME)

OE:

SM SI (CH₂)₃ NH₂

OE:

EN 18306-79-1 CAPLUS

TI 1-Propanamine, 3-(ethoxydimethylsilyl)- (9CI) (CA INDEX NAME)

OE:

SM SI (CH₂)₃ NH₂

Me

IN 256352-86-0P 256352-87-1P 256352-89-3P
437610-24-7P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)

(method of attaching biopolymers to **solid supports**)

(using bromoacetamidossilanes to functionalize supports)

EN 256352-86-0 CAPLUS

TI Acetamide, 2-bromo-N-[3-(diethoxymethylsilyl)propyl]- (9CI) (CA INDEX
NAME)

OE: O

SM SI (CH₂)₃ NH C CH₂Br

OE:

EN 256352-87-1 CAPLUS

TI Acetamide, 2-bromo-N-[3-(ethoxydimethylsilyl)propyl]- (9CI) (CA INDEX
NAME)

OEt O

Me Si (CH₂)₂ NH C CH₂Br

Me

EN 256350-44-3 CAPLUS

CN 1-Butanamine, 4-[methoxybis(1-methylethyl)silyl]- (9CI) (CA INDEX NAME)

OMe

i-Pr Si (CH₂)₄ NH₂

i-Pr

EN 447610-14-7 CAPLUS

CN Acetamide, 2-bromo-N-[4-(methoxybis(1-methylethyl)silyl]butyl]- (9CI) (CA INDEX NAME)

OMe O

i-Pr Si (CH₂)₄ NH C CH₂Br

i-Pr

L45 ANSWER 1 OF 41 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 2002:173444 CAPLUS

DOCUMENT NUMBER: 136:129021

TITLE: High-density functional slide for biomolecule immobilization and preparation method thereof for use in high-efficiency bio-chip/microarray

INVENTOR(S): Ho, Chih-wei; Chow, Zu-sho; Fan, Bor-ian; Tsao, Chia-huey; Pan, Chao-chi; Kuo, Wen-hsun; Chang, Yac-sun; Wu, Cheng-tao; Liu, Lu-ching

PATENT ASSIGNEE(S): Taiwan

SOURCE: U.S. Pat. Appl. Publ., 14 pp.

CODEN: SEXKNC

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2002018506	A1	2002-08-07	US 2001-886332	2001-04-18

PRIORITY APPLN. INFO.: TW 2000-39118079 A 20000904

AB The invention features a method for prepg. a high-d. functional slide with ultra-thin layer by coating a sol-gel contg. amine-group bearing silanes and a soln. contg. polyaldehyde groups onto an org. or inorg. substrate, resp. The resulting slide is useful in the prepn. of highly homogeneous functional-group slides and the high-d. and high-efficiency bio-chip/microarray. In one preferred embodiment of the present invention, the polyaldehyde polymer is prepd. via the graft co-polymer. of polyvinylalc.-based polyaldehyde. Therefore, the present invention also provides a polyvinylalc.-based polyaldehyde graft copolymer, which is prepd. by the following steps: (a) dissolving polyvinylalc. in water to

form a polymeric soln.; (b) adding the monomer of allyl alc. and acrolein to the polymeric soln. under anaerobic conditions; and (c) adding ceric ammonium nitrate to the soln. for catalysis. The polyvinylalco.-based polyaldehyde graft copolymer comprises 2-10 (w/w) polyvinylalco., 2-10 (vol. vol.) monomer of acrolein and 1-5 (vol./vol.) monomer of allyl alc.

BT 919-30-2, Aminopropyltriethoxysilane

RL: DEV (D-vice component use); USES (Uses)

(APTES, sol-gel; high-d. functional slide for biomol. immobilization and prepn. method thereof for high-efficiency bio-chips; **microarray**)

RN 919-30-2 CAPLUS

IN 1-Propanamine, 3-(triethoxysilyl)- (9CI) (CA INDEX NAME)

OEt

EO Si (CH₂)₃ NH₂

OEt

L4. ANSWER 3 OF 41 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 2002:90792 CAPLUS

DOCUMENT NUMBER: 136:275611

TITLE: Characteristics of DNA **microarrays**

fabricated on various aminosilane layers

AUTHOR(S): Oh, Seon Jin; Cho, Sung Ju; Kim, Chang Ok; Park, Joon Won

CORPORATE SOURCE: Center for Integrated Molecular Systems, Department of Chemistry, Division of Molecular and Life Sciences, Pohang University of Science and Technology, Pohang, 790-784, S. Korea

SOURCE: Langmuir (2002), 18(1), 1764-1769

CODEN: LANGDE; ISSN: 0743-7463

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Four kinds of aminosilane layers on glass slides or silicon wafers were prepd. The amine densities of the layers prepd. with aminopropyltriethoxymethylsilane (APDES), aminopropylmonoethoxydimethylsilane (APMES), a mixt. of (aminopropyl)triethoxysilane (APTES) and n-butyltriethoxysilane (n-BTMO) (vol./vol. = 1:10) are 4.0(+/-0.8), 1.3(+/-0.1), and 0.30(+/-0.6) amine/nm², resp. A substrate with much higher amine d., i.e., 40(+/-8) amines/nm² was also prepd. by allowing aziridine to polymerize on the APDES-treated substrate. AFM revealed that APDES-, APMES-, and APTES/n-BTMO-treated surfaces were relatively flat; on the other hand, an aziridine-treated surface showed embossed morphol. The amine substrates were allowed to react with a heterobifunctional linker succinimidyl 4-maleimido butyrate (SMB), and subsequently pentadecadecoxynucleotides were microarrayed on the SMB-treated substrates. Characteristics of the DNA microarrays including the dynamic range, the mismatch discrimination efficiency, and so forth were examd. Noteworthy, DNA microarrays on the aziridine-polymd. substrate showed much higher fluorescence intensity. At the same time, DNA microarrays from these four substrates were able to discriminate internal- and terminal-mismatched pairs, but the fluorescence ratio was far from the one that thermodyn. implies.

BT 919-30-2, APTES 3179-76-8 18306-79-1

RL: ANS (Analytical role, unclassified); PEP (Physical, engineering or chemical process); PFP (Physical process); ANST (Analytical study); PROC (Process)

(DNA microarrays fabricated on various aminosilane layers)

RN 319-30-2 CAPLUS
CN 1-Propanamine, 3-(triethoxysilyl)- (9CI) (CA INDEX NAME)

OEt

EtO Si (CH₃)₃ NH₂

OEt

RN 3179-76-8 CAPLUS
CN 1-Propanamine, 3-(diethoxymethylsilyl)- (9CI) (CA INDEX NAME)

OEt

Me Si (CH₃)₃ NH₂

OEt

RN 18390-79-1 CAPLUS
CN 1-Propanamine, 3-(ethoxydimethylsilyl)- (9CI) (CA INDEX NAME)

OEt

Me Si (CH₃)₃ NH₂

Me

REFERENCE COUNT: 45 THERE ARE 45 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

145 ANSWER 4 OF 41 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 2002:51931 CAPLUS

DOCUMENT NUMBER: 136:80850

TITLE: Compositions and methods for array-based genomic nucleic acid analysis of biological molecules

INVENTOR(S): Bradley, Allan; Cai, Wei-Wen; Marathi, Upendra

PATENT ASSIGNEE(S): UK

SOURCE: U.S. Pat. Appl. Publ., 25 pp., Cont.-in-part of U.S. Ser. No. 546,035.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY APP. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2002006623	A1	20020117	US 2001-853343	20010510
US 6048695	A	20000411	US 1998-7187	19980504
PRIORITY APPLN. INFO.:			US 1998-71876	A2 19980504
			US 2000-540085	A2 20000410

OTHER SOURCE(S): WAFPAT 136:80850

AB The invention provides biomol. modified by reaction with a compd. having the formula: R1-X-R2, wherein R1 is a cyclic ether group or an amino group, R2 is an alkoxysilane group and X is a moiety chem. suitable for linking the cyclic ether group or the amino group to the alkoxysilane

group. The invention also provides arrays, or "biochips," comprising these modified biol. mols. Also provided are methods for making and using these compons.

919-30-2, 3-Aminopropyltriethoxysilane 2530-83-8,

3-Glycidyloxypropyltrimethoxysilane

RL: AAG (Analytical reagent use); BBU (Biological use, unclassified);

ANST (Analytical study); BIOL (Biological study); USES (Uses)

comps. and methods for array-based genomic nucleic acid anal. or biol. mols.

SI 11-3-11 CAPLUS

SI 1-Propanamine, 3-(triethoxysilyl)- (PCI) (CA INDEX NAME)

DEt

SI 11 (CH₂)₃ NH₂

DEt

SI 15-40-4-4 CAPLUS

SI Silane, trimethoxy[3-(oxiranylmethoxy)propyl]- (9CI) (CA INDEX NAME)

OMe

CH₂ O (CH₂)₃ Si OMe

OMe

140 ANSWER 5 OF 41 CAPLUS COPYRIGHT 2012 ACS

ACCESSION NUMBER: 2002:31489 CAPLUS

DOCUMENT NUMBER: 136:31750

TITLE: Improved combination of microporous membrane and solid support for micro-analytical diagnostic applications

PATENT ASSIGNEE(S): Cuno, Inc., USA

SOURCE: PCT Int. Appl., 39 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002004477	A2	20020117	WO 2001-0321210	20010603
WO 2002004477	C1	20020620		

W: AU, BR, JP

RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR

US 2002086307 A1 20020704 US 2001-393102 20010703

PRIORITY APPLN. INFO.: US 2000-216390P P 20000706

AB The invention concerns an improved combination microporous membrane and solid support for use in micro-anal. diagnostic applications is disclosed. Specifically, a multi-cell substrate useful for carrying a microarray of biol. polymers on the surface thereof including a multi-cell substrate having a porous membrane formed by a phase inversion process effectively attached by covalent bonding through a surface treatment to a substrate that preps. the substrate to sufficiently, covalently bond to the microporous membrane formed by a phase inversion process such that the combination produced thereby is useful in microarray applications and

wherein the porous nylon multi-cell substrate is covalently bonded to a solid base member, such as, for example, a glass or Mylar microscope slide, such that the combination produced thereby is useful in microarray applications. App. for fabricating a multi-cell substrate is also disclosed. Diagrams describing the app. are given.

IT 919-30-2, 3-Aminopropyltriethoxysilane 1760-24-3,
N-(2-Aminoethyl)-3-aminopropyltrimethoxysilane 2530-83-8,
3-Glycidyloxypropyltrimethoxysilane
PL: NUU (Other use, unclassified); USES (Uses)
improved combination of microporous membrane and **solid support** for micro-anal. diagnostic applications)
RN 919-30-2 CAPLUS
CN 1-Propylamine, 3-(triethoxysilyl)- (9CI) (CA INDEX NAME)

OEt

EtO Si (CH₂)₃ NH₂

OEt

RN 1760-24-3 CAPLUS
CN 1,3-Ethanediamine, N-[3-(trimethoxysilyl)propyl]- (9CI) (CA INDEX NAME)

OMe

MeO Si (CH₂)₃ NH CH₂ CH₂ NH₂

OMe

RN 2530-83-8 CAPLUS
CN Silane, trimethoxy[3-(oxiranymethoxy)propyl]- (9CI) (CA INDEX NAME)

O Me

CH₂ O (CH₂)₃ Si OMe

OMe

L45 ANSWER 6 OF 41 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 001:090855 CAPLUS

DOCUMENT NUMBER: 136:101917

TITLE: An Efficient Binding Chemistry for Glass Polynucleotide Microarrays

AUTHOR(S): Lee, Paul H.; Sawan, Samuel P.; Mcdrusan, Zora; Arnold, Lyle C., Jr.; Reynolds, Mark A.

CORRESPONDENCE SOURCE: Incyte Genomics, Microarray Research and Development, Fremont, CA, 94555, USA

SOURCE: Bioconjugate Chemistry (2002), 13(1), 97-103

CODEN: BCCRES; ISSN: 1043-1802

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A variety of methods have been described for making synthetic polynucleotide microarrays. These include in situ synthesis directly on the array surface, for example, by photolithog. or ink-jet printing technologies, and the application of presynthesized polynucleotides that

are derivatized with various nucleophiles or electrophiles. In the latter case, a variety of surface chemistries have been developed, and several are available com. These chemistries must be compatible with nanoliter-scale vols. of polynucleotide reagents, which contact the array over a small portion of their surface. We reasoned that a three-dimensional polymer coating could potentially offer greater surface contact and higher binding efficiency. Here we describe a polyethylenimine-based coating chem. that provides exceptional binding and hybridization characteristics. In our preferred process, size-fractionated polyethylenimine polymers are cross-linked onto an aminopropylsilanated glass surface in the presence of cyanuric chloride. The resulting three-dimensional coating binds polynucleotides through a mixt. of covalent and noncovalent interactions as evidenced by comparisons between 5'-aminoalkyl modified and unmodified polynucleotides. Binding and hybridization comparisons are presented including analogous two-dimensional electrophilic and electrostatic chemistries.

13 13822-56-5, 3-Aminopropyltrimethoxysilane

RE: RCT (Reactant); RACT (Reactant or reagent)

efficient binding chem. for glass polynucleotide **microarrays**, synthesis and characterization of glass surface coatings)

13 13822-16-5 CAPLUS

13 1-Propanamine, 3-(trimethoxysilyl)- (SCI) (CA INDEX NAME)

OMe

MeO Si (CH₂)₃ NH₂

OMe

REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

11- ANSWER 7 OF 41 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 2001:363771 CAPLUS

DOCUMENT NUMBER: 136:163471

TITLE: HPLC of some nucleosides and bases on p-tert-butyl-calix[6]arene-bonded silica gel stationary phase

AUTHOR(S): Xiao, Yu-Kun; Xiao, Xiang-Zhu; Feng, Yu-Qi; Wang, Zhong-Hua; Da, Shi-Lu

CORPORATE SOURCE: College of Life Sciences and Department of Chemistry, Wuhan University, Wuhan, 430072, Peop. Rep. China

JOURNAL: Journal of Liquid Chromatography & Related Technologies (2001), 24(19), 2923-2942

CODEN: JLCSTC; ISSN: 1082-6076

PUBLISHER: Marcel Dekker, Inc.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The high-performance liq. chromatog. behavior of some nucleosides and bases was studied on a new p-tert-butyl-calix[6]arene-bonded silica gel stationary phase. The effect of mobile phase variables, such as ionic strength, methanol content, and pH on their chromatog. behavior was investigated. Some nucleosides and bases were successfully sepd. on the new stationary phase. Their retention behavior was compared with that on both Porbax C18 phase and-(2-ethylenediamino)propyl-triethoxysilane-bonded silica gel. The results indicate that the new stationary phase behaves as a reversed-phase packing, but its hydrophobicity is much weaker than that of Porbax C18 phase. The retention mechanism on the new stationary phase was also discussed.

5089-72-5D, reaction products with polycalixarene acetic acid and alcoh

PL: AFU (Analytical role, unclassified); ANST (Analytical study)
(HPLC of nucleosides and bases on p-tert-butyl-calix[6]arene-bonded
silica gel stationary phase)

EN 5989-72-5 CAPLUS
CN 1,2-Ethanediamine, N-[3-(triethoxysilyl)propyl]- (9CI) (CA INDEX NAME)

OEI

EOO SI (CH₂)₃ NH CH₂ CH₂ NH₂

OEI

IT 71-30-7, Cytosine 73-40-5, Guanine

PL: PEI (Physical, engineering or chemical process); PYP (Physical
process;; FPOC (Process)
(HPLC of nucleosides and bases on p-tert-butyl-calix[6]arene-bonded
silica gel stationary phase)

EN 71-30-7 CAPLUS
CN (1H)-Pyrimidinone, 4-amino- (9CI) (CA INDEX NAME)

C $\begin{array}{c} \text{H} \\ | \\ \text{N} \end{array}$ NH₂

N

EN 73-40-5 CAPLUS
CN 6H-Purin-6-one, 2-amino-1,7-dihydro- (9CI) (CA INDEX NAME)

H₂N $\begin{array}{c} \text{H} \\ | \\ \text{N} \end{array}$ N
N NH

O

REFERENCE COUNT: 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L48 ANSWER 8 OF 41 CAPLUS CCFYF1GHT 2002 ACS
ACCESSION NUMBER: 2001:748054 CAPLUS
DOCUMENT NUMBER: 135:299495
TITLE: Compositions and methods for detecting and quantifying
gene expression in microarrays
INVENTOR(S): Lowe, David G.; Marsters, James C., Jr.; Robbie,
Edward P.; Smith, Victoria
PATENT ASSIGNEE(S): Genentech, Inc., USA
SOURCE: PCT Int. Appl., 54 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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WI: 20010160 A2: 20011011 WO: 2001-031492 20010160
 WI: 20010160 A3: 20020501

WI: AE, AG, AH, AM, AT, AU, AZ, BA, BB, BC, BD, BE, BF, BG, BH, BI, BJ, BK, BL, BM, BN, BO, BP, BQ, BR, BS, BT, BU, BV, BW, BX, BY, BZ, CA, CH, CI, CJ, CK, CL, CM, CN, CO, CP, CQ, CR, CS, CT, CU, CV, CW, CX, CY, CZ, DA, DB, DC, DD, DE, DF, DG, DH, DI, DJ, DK, DL, DM, DN, DO, DP, DQ, DR, DS, DT, DU, DV, DW, DX, DY, DZ, EA, EB, EC, ED, EE, EF, EG, EH, EI, EJ, EK, EL, EM, EN, EO, EP, EQ, ER, ES, ET, EU, EV, EW, EX, EY, EZ, FA, FB, FC, FD, FE, FF, FG, FH, FI, FJ, FK, FL, FM, FN, FO, FP, FQ, FR, FS, FT, FU, FV, FW, FX, FY, FZ, GA, GB, GC, GD, GE, GF, GH, GI, GJ, GK, GL, GM, GN, GO, GP, GQ, GR, GS, GT, GU, GV, GW, GX, GY, GZ, HA, HB, HC, HD, HE, HF, HG, HH, HI, HJ, HK, HL, HM, HN, HO, HP, HQ, HR, HS, HT, HU, HV, HW, HX, HY, HZ, IA, IB, IC, ID, IE, IF, IG, IH, II, IJ, IK, IL, IM, IN, IO, IP, IQ, IR, IS, IT, IU, IV, IW, IX, IY, IZ, JA, JB, JC, JD, JE, JF, JG, JH, JI, JJ, JK, JL, JM, JN, JO, JP, JQ, JR, JS, JT, JU, JV, JW, JX, JY, JZ, KA, KB, KC, KD, KE, KF, KG, KH, KI, KJ, KK, KL, KM, KN, KO, KP, KQ, KR, KS, KT, KU, KV, KW, KX, KY, KZ, LA, LB, LC, LD, LE, LF, LG, LH, LI, LJ, LK, LM, LN, LO, LP, LQ, LR, LS, LT, LU, LV, LW, LX, LY, LZ, MA, MB, MC, MD, ME, MF, MG, MH, MI, MJ, MK, ML, MM, MN, MO, MP, MQ, MR, MS, MT, MU, MV, MW, MX, MY, MZ, NA, NB, NC, ND, NE, NF, NG, NH, NI, NJ, NK, NL, NM, NO, NP, NQ, NR, NS, NT, NU, NV, NW, NX, NY, NZ, OA, OB, OC, OD, OE, OF, OG, OH, OI, OJ, OK, OL, OM, ON, OO, OP, OQ, OR, OS, OT, OU, OV, OW, OX, OY, OZ, PA, PB, PC, PD, PE, PF, PG, PH, PI, PJ, PK, PL, PM, PN, PO, PP, PQ, PR, PS, PT, PU, PV, PW, PX, PY, PZ, QA, QB, QC, QD, QE, QF, QG, QH, QI, QJ, QK, QL, QM, QN, QO, QP, QQ, QR, QS, QT, QU, QV, QW, QX, QY, QZ, RA, RB, RC, RD, RE, RF, RG, RH, RI, RJ, RK, RL, RM, RN, RO, RP, RQ, RR, RS, RT, RU, RV, RW, RX, RY, RZ, SA, SB, SC, SD, SE, SF, SG, SH, SI, SJ, SK, SL, SM, SN, SO, SP, SQ, SR, SS, ST, SU, SV, SW, SX, SY, SZ, TA, TB, TC, TD, TE, TF, TG, TH, TI, TJ, TK, TL, TM, TN, TO, TP, TQ, TR, TS, TU, TV, TW, TX, TY, TZ, UA, UB, UC, UD, UE, UF, UG, UH, UI, UJ, UK, UL, UM, UN, UO, UP, UQ, UR, US, UT, UV, UW, UX, UY, UZ, VA, VB, VC, VD, VE, VF, VG, VH, VI, VJ, VK, VL, VM, VN, VO, VP, VQ, VR, VS, VT, VU, VV, VW, VX, VY, VZ, WA, WB, WC, WD, WE, WF, WG, WH, WI, WJ, WK, WL, WM, WN, WO, WP, WQ, WR, WS, WT, WU, WV, WW, WX, WY, WZ, XA, XB, XC, XD, XE, XF, XG, XH, XI, XJ, XK, XL, XM, XN, XO, XP, XQ, XR, XS, XT, XU, XV, XW, XX, XY, XZ, YA, YB, YC, YD, YE, YF, YG, YH, YI, YJ, YK, YL, YM, YN, YO, YP, YQ, YR, YS, YT, YU, YV, YW, YX, YY, YZ, ZA, ZB, ZC, ZD, ZE, ZF, ZG, ZH, ZI, ZJ, ZK, ZL, ZM, ZN, ZO, ZP, ZQ, ZR, ZS, ZT, ZU, ZV, ZW, ZX, ZY, ZZ.

US 2002081597 A1 20020627 US 2001-823649 20010130

PRIORITY APPLN. INFO.:

US 2000-1837-07P P 20000831

AB: Comps. and methods for improving detection sensitivity in nucleic acid microarray anal. are disclosed, including methods of purifying nucleic acids, methods of synthesizing fluorescent DNA probes, methods of hybridization, and methods of activating a substrate for target mol. attachment. The comps. and methods of this invention include synthesis of cDNA, sDNA, or eDNA probes from cellular RNA by in vitro transcription and/or a single-round of reverse transcription with incorporation of fluorochromes. Specific procedures for microarray slide prepn. to decrease background fluorescence are given. For example, silanization of glass slides with toluene as the solvent is preferred. In addn., unmodified polynucleotides can attach to a glass slide treated with 3-aminopropyltriethoxysilane followed by phenylene diisothiocyanate. Modified target DNA can also be synthesized using PCR primers which contain a primary amine and an alkyl linker attached to the 5'-end. The modified target DNA is then reacted with activated silanized glass slides. Microarray hybridization buffers contg. alkylammonium salts, dimethylsulfoxide and formamide and lacking the detergent sodium dodecyl sulfate also improved the detection sensitivity. The invention is illustrated with microarrays hybridized with fluorescent probes synthesized from very small quantities of RNA isolated from microdissected tumor cells, paraffin-embedded liver and colon tissue, fresh frozen liver tissue, and fresh frozen colon tissue. The microarray expts. were designed to compare tissue sample prepn. methods and gene expression in tumor vs. healthy tissues. An example of the sensitivity of these methods shows a microarray hybridized with sDNA probes from one round of amplification of 2 pg of RNA from an ovarian carcinoma cell line.

IT: 919-30-2, 3-Aminopropyltriethoxysilane

EL: BUN (Biological use, unclassified); DEV (Device component use); RCT (Reactant); BIOL (Biological study); RACT (Reactant or reagent); USES (Uses)

(comps. and methods for detecting and quantifying gene expression in microarrays)

EN: 919-30-2 CAPLUS

IN: 1-Propanamine, 3-(triethoxysilyl)- (9CI) (CA INDEX NAME)

OE:

SI: (CH₃)₃ NH₂

OF:

LI: ANSWER 9 OF 41 CAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 2001:718263 CAPLUS

DOCUMENT NUMBER: 133:26:667

TITLE: Polymer coated surfaces for microarray applications

INVENTOR(S): Arnold, Lyle J., Jr.; Sawan, Samuel P.; Lee, Paul H.

PATENT ASSIGNEE(S): Incyte Pharmaceuticals, Inc., USA

SOURCE: PCT Int. Appl., 27 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 1001070641	A1	10010627	WO 2001-038943	10010321
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BP, BY, CA, CH, CN, CO, CP, CU, CC, DE, DK, EM, EZ, EE, ES, FI, GB, GR, GE, GH, GM, HE, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, LA, LK, LR, LS, LT, LU, LV, MA, MI, MS, ME, MN, MW, MX, NL, NO, NI, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, SM, SN, SV, TH, TM, TR, TT, UA, UG, UZ, VN, YU, ZA, ZW, AM, AN, AP, AR, AS, AT, AU, BA, BB, BG, BP, BY, CA, CH, CY, CZ, DE, DK, ES, FI, FR, GB, GR, HE, IE, IT, LU, MA, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, NI, PD, TG			
US 6418710	B1	10000700	US 2000-532413	10000322
US 1000047500	A1	10000428	US 2001-773413	10010201
US 6387681	B2	10000514		

PRIORITY APPLN. INFO.: US 2000-032413 A 10000322
 OTHER SOURCE(S): MARIAT 135:260660

AB Methods are provide for modifying a solid support, such as a glass slide, by silylating with an agent having the formula $H_2N(CH_2)_nOSiX_3$ ($n = 1-10$, $X =$ independently chosen from Me, Et, Pr, Bu, I), then activating with a crosslinking reagent, followed by reacting with an amine-contg. polymer. The support can optionally be reacted with a crosslinking reagent again. The support thus modified may be used to make arrays and microarrays where a plurality of targets are stably assod. with the support and arranged in a defined manner. Thus, glass slides were silylated with 3-aminopropyltrimethoxysilane. The silylated slides were reacted with cyanuric chloride then with PEI, polylysine, or polyhistidine. 5'-Aminocalkyl-terminated oligonucleotides were spotted on such slides and used in hybridization assays.

IT 13822-56-5, 3-Aminopropyltrimethoxysilane
 EL: PCT (Reactant); PACT (Reactant or reagent)
 (polymer coated surfaces for **microarray** applications)

FI 13822-56-5 CAPLUS

CH 1-Propanamine, 3-(trimethoxysilyl)- (931) (CA INDEX NAME)

CM-

MeO Si (CH₂)₃ NH₂

CM-

REFERENCE COUNT: 1 THERE ARE 1 CITEL REFERENCES AVAILABLE FOR THIS RECORD. AND CITATIONS AVAILABLE IN THE RE FORMAT

L45 ANSWER 10 OF 41 CAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1001:038943 CAPLUS

DOCUMENT NUMBER: 10010321

TITLE: Dendrimer-activated **solid supports**
 for nucleic acid and protein **microarrays**

AUTHOR(S): Benters, R.; Niemeyer, C. M.; Wehrle, D.

CORPORATE SOURCE: Institut of Organic and Macromolecular Chemistry,
 University Bremen, Bremen, 28359, Germany

SOURCE: ChemBioChem (2001), 2(9), 686-694

CODEN: CBBHEX; ISSN: 1460-4227

Searched by Barb O'Bryen, STIC 1001-4291

PUBLISHED: Wiley-VCH Verlag GmbH
DOCUMENT TYPE: Journal
Language: English

AB The generation of chem. activated glass surfaces is of increasing interest for the prodn. of microarrays contg. DNA, proteins, and low-mol.-wt. components. We here report on a novel surface chem. for highly efficient activation of glass slides. Our method is based on the initial modification of glass with primary amino groups using a protocol, specifically optimized for high aminosilylation yields, and in particular, for homogeneous surface coverages. In a following step the surface amino groups are activated with a nonbifunctional linker, such as disuccinimidylglutarate (DSG) or 1,4-phenylenedithiocyanate (PDITC), and then allowed to react with a starburst dendrimer that contains 64 primary amino groups in its outer sphere. Subsequently, the dendritic monomers are activated and crosslinked with a nonbifunctional spacer, either DSG or PDITC. This leads to the formation of a thin, chem. reactive polymer film, covalently affixed to the glass substrate, which can directly be used for the covalent attachment of amino-modified components, such as oligonucleotides. The resulting DNA microarrays were studied by means of nucleic acid hybridization expts. using fluorophore-labeled complementary oligonucleotide targets. The results indicate that the novel dendrimer-activated surfaces display a surface coverage with capture oligomers about twofold greater than that with conventional microarrays contg. linear chem. linkers. In addn., the expts. suggest that the hybridization occurs with decreased steric hindrance, likely a consequence of the long, flexible linker chain between the surface and the DNA oligomer. The surfaces were found to be resistant against repeated alk. regeneration procedures, which is likely a consequence of the crosslinked polymeric structure of the dendrimer film. The high stability allows multiple hybridization expts. without significant loss of signal intensity. The versatility of the dendrimer surfaces is also demonstrated by the covalent immobilization of streptavidin as a model protein.

392661-75-5 392661-76-6

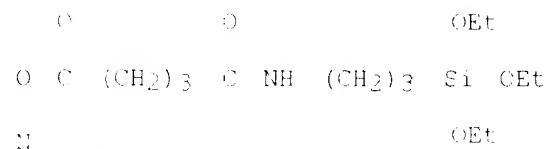
EL: ARU (Analytical role, unclassified); DEV (Device component use);

ANST (Analytical study); USES (Uses)

Condensation on silica; dendrimer-activated solid supports for nucleic acid and protein microarrays)

392661-75-5 CAPLUS

CI Pentanamide, 5-[(2,5-dioxo-1-pyrrolidinyloxy]-5-oxo-N-[3-(triethoxysilyl)propyl]- (9CI) (CA INDEX NAME)



392661-76-6 CAPLUS

CI Thiourea, N-(4-isothiocyanatophenyl)-N'-[3-(triethoxysilyl)propyl]- (9CI) (CA INDEX NAME)

S OEt

NH C NH (CH₂)₃ Si OEt

Et

S C N

REFERENCE COUNT: 34 THERE ARE 34 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L45 ANSWER 11 OF 41 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:611649 CAPLUS
DOCUMENT NUMBER: 133:17767
TITLE: Linear microarrays
INVENTOR(S): Telann, Timothy W.; Park, Sang Chul
PATENT ASSIGNEE(S): Incyte Genomics, Inc., USA
SOURCE: U.S., 11 pp.
KEYWORDS: USKXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY APP. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6277613	B1	20010321	US 1998-165465	19981002
US 2001072065	A1	20020618	US 2001-935572	20010810

PRIORITY AFFILI. INFO.: US 1998-165465 A1 19981002

AB The present invention provides a method and a compn. for detecting the levels of a plurality of known probes in a sample. In particular, the invention relates to a hybridization compn. for detecting the presence or levels of different polynucleotide sequences in a sample. A YP3 59mer labeled at the 3'-end with a Cy3 fluorescent dye was immobilized on epoxide-coated glass beads. A capillary tube was packed with the beads sepd. by alternating unmodified beads to prep. a glass bead array.

IT 2530-83-8, 3-Glycidioxypropyl-trimethoxysilane
FL: FCT (Reactant); PACT (Reactant or reagent)
(linear microarrays

RU 2530-83-3 CAPLUS

CU Silane, trimethoxy[3-(trimethoxypropyl)- (OCI) (CA INDEX NAME)

C OMe

CH₂ C (CH₂)₃ Si OMe

OMe

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L45 ANSWER 12 OF 41 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:57412 CAPLUS
DOCUMENT NUMBER: 133:19484
TITLE: Oligonucleotides form a duplex with non-helical properties on a positively charged surface
AUTHOR(S): Ismeshko, A. V.; Bowdrell, T.; Belosludtsev, Y. Y.; Sigan, M.
CORPORATE SOURCE: Baylor College of Medicine, Houston, TX, 77030, USA
SOURCE: Nucleic Acids Research (2001), 29(14), 3051-3058

Searched by Barb O'Bryen, STIC 308-4291

CODEN: NARBAH; ISSN: 0304-3995
PUBLISHER: Oxford University Press
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The double helix is known to form as a result of hybridization of complementary nucleic acid strands in aq. soln. In the helix the neg. charged phosphate groups of each nucleic acid strand are distributed helically on the outside of the duplex and are available for interaction with cationic groups. Cation-coated glass surfaces are now widely used in microanal., esp. for covalent attachment of cDNAs and oligonucleotides as surface-bound probes on microarrays. These cationic surfaces can bind the nucleic acid backbone electrostatically through the phosphate moiety. Here we describe a simple method to fabricate DNA microarrays based upon adsorptive rather than covalent attachment of oligonucleotides to a pos. charged surface. We show that such adsorbed oligonucleotide probes form a densely packed monolayer, which retains capacity for base pair-specific hybridization with a soln. state DNA target strand to form the duplex. However, both strand disson. kinetics and the rate of DNase digestion suggest, on symmetry grounds, that the target DNA binds to such adsorbed oligonucleotides to form a highly asym. and unwound duplex. Thus, it is suggested that, at least on a charged surface, a non-helical DNA duplex can be the preferred structural isomer under std. biochem. conditions.

13822-56-5, 3-Aminopropyltrimethoxysilane
RL: AKG (Analytical reagent use); ANST (Analytical study); USES
(Uses

oligonucleotides form duplex with non-helical properties on pos.
charged surface)

EN 13822-56-5 CAPLUS

EN 1-Propanamine, 3-(trimethoxysilyl)- (9CI) (CA INDEX NAME)

OMe

OMe Si (CH₃)₃ NH₂

OMe

REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE EE FORMAT

14. ANSWER 13 OF 41 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 2001:447194 CAPLUS

DOCUMENT NUMBER: 135:01337

TITLE: A novel biosensor of DNA immobilization on nano-gold
modified ITO for the determination of mifepristone
AUTHOR(S): Xu, Jinchong; Zhu, Jun-Jie; Zhu, Yanling; Gu, Kai;
Chen, Hong-Yuan

ABSTRACT SOURCE: Department of Chemistry, State Key Laboratory of
Coordination Chemistry, Nanjing University, Nanjing,
210003, Peop. Rep. China

SOURCE: Analytical Letters (2001), 34(4), 503-512

CODEN: ANALBP; ISSN: 0003-2719

PUBLISHER: Marcel Dekker, Inc.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A novel DNA modified indium tin oxide (ITO) electrode has been prepd.
(3-Aminopropyl)Trimethoxysilane, gold nano-particles and DNA mols. are
modified on the ITO electrode surface by self-assembly and electrochem.
techniques, resp. This is a simple, stable, repeatable approach. The
modified electrode can be used to detect mifepristone. A linear
dependence of the peak currents on mifepristone concn. is obsd. in the
range 4.times.10⁻⁷-6.times.10⁻⁶mol/L. The relative std. deviation is 4.5

for six successive detns. at 1.times.10-6 mol/L soln. The detection limit is 2.times.10-7 mol/L.

IT 13822-56-5, (3-Aminopropyl)trimethoxysilane
FL: ARU (Analytical role, unclassified); DEV (Device component use);
ANST (Analytical study); USES (Uses).

(DNA immobilization on glass-gold modified ITO for detn. of mitomycin)

RN 13822-56-5 CAPLOS

CN 3-Propylamine, 3-(trimethoxysilyl) - (SCI) (CA INDEX NAME)

PMG

MeG Si (CH₃)₃ NH₂

OMG

REFERENCE COUNT: 10 THREE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

I45 ANSWER 14 OF 41 CALLOS COPYRIGHT 1992 ACS

ACCESSION NUMREF: 2001:100007 CALLOS

DOCUMENT NUMBER: 144:308619

TITLE: A factorial analysis of silanization conditions for the immobilization of oligonucleotides on glass surfaces

AUTHOR(S): Halliwell, Catherine M.; Gass, Anthony E. G.
CORPORATE SOURCE: Department of Biochemistry Imperial College of Science Technology and Medicine, University of London, London, SW7 2AY, UK

SOURCE: Analytical Chemistry (2001), 73(11), 2476-2483
CITER: ANCHAM; ISSR: 0008-2700

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The modification of glass surfaces with (3-aminopropyl)trimethoxysilane and the application of this to DNA chip technol. are described. A range of factors influencing the silanization method, and hence the no. of surface-bound, chem. active thiol groups, were investigated using a design of expt. approach based on anal. of variance. The no. of thiol groups introduced on glass substrates were measured directly using a specific radiolabel, [14C] cysteamine hydrochloride. For liq.-phase silanization, the no. of surface-bound thiol groups was found to be dependent on both postsilanization thermal curing and silanization time and relatively independent of silane concn., reaction temp., and sample pretreatment. Depending on the conditions used in liq.-phase silanization, (2.3-9.0) .times. 10¹² thiol groups/cm² on the glass samples were bound. The reliability and repeatability of liq.- and vacuum-phase silanization were also investigated. Eighteen-base oligonucleotide probes were covalently attached to the modified surfaces via a 5'-amine modification on the DNA and subsequent reaction with the crosslinking reagent N-(gamma-maleimidebutyryl)xy succinimide ester (EMBS). The resulting probe levels were detd. and found to be stoichiometric with amt of the introduced thiol groups. These results demonstrate that silanization of glass surfaces under specific conditions, prior to probe attachment, is of great importance in the development of DNA chips that use the simple concept of the covalent attachment of pre-synthesized oligonucleotides to silicon oxide surfaces.

IT 919-30-2, (3-Aminopropyl)trimethoxysilane

FL: ARU (Analytical role, unclassified); DEV (Device component use);
ANST (Analytical study); USES (Uses)

(factorial anal. of silanization conditions for immobilization of

1. nucleotides on glass surfaces
919-30-2 CAPLUS
1 Propylamine, 3-(triethoxysilyl)- (9CI) (CA INDEX NAME)

CEI

919-30-2 NH2

CEI

REFERENCE COUNT: 42 THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE PE FORMAT

14. ANSWER 15 OF 41 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 2001:04:03 CAPLUS

INSTRUMENT NUMBER: 199:4:97

TITLE: Peptide and small molecule **microarray** for high throughput cell adhesion and functional assays

AUTHOR(S): Halsey, James R.; Senil, M.; Park, Steven; Li, Snijun; Lam, Kit S.

LABORATORY SOURCE: UC Davis Cancer Center Division of Hematology/Oncology and Department of Internal Medicine, University of California Davis, Sacramento, CA, 95817, USA

SOURCE: Biocjugate Chemistry (2001), 12(3), 346-353

CODEN: BOCHEB; ISSN: 1048-1802

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A novel class of chem. microchips consisting of glass microscope slides was prepd. for the covalent attachment of small mol. ligands and peptides through site-specific oxime bond or thiazolidine ring ligation reaction. Com. available microscope slides were thoroughly cleaned and derivatized with (3-aminopropyl)triethoxysilane (APTES). The amino slides were then converted to glyoxylyl deriva. via two different routes: (1) coupling of Emod-der followed by deprotection and oximn., or (2) coupling with protected glyoxylic acid and final deprotection with HCl. Biotin or peptide ligands derivatized at the carboxyl terminus with a 4,7,10-trioxa-1,13-tridecanediamine succinimic acid linker and an amino-oxy group or a 1,2-amino-triol group (e.g., cysteine with a free N.alpha.-amino group) were printed onto these slides using a DNA microarray spotter. After chem. ligation, the microarray of immobilized ligands was analyzed with three different biol. assays: (1) protein-binding assay with fluorescence detection, (2) functional phosphorylation assay using [γ -³²P]-ATP and specific protein kinase to label peptide substrate spots, and (3) adhesion assay with intact cells. In the cell adhesion assay, not only can we det. the binding specificity of the peptide against different cell lines, we can also det. functional cell signaling of attached cells using immunofluorescence techniques in situ on the microchip. This chem. microchip system enables us to rapidly analyze the functional properties of numerous ligands that we have identified from the "one-bead-one-compd." combinatorial library method.

919-30-2, (3-Aminopropyl)triethoxysilane

RL: ARJ (Analytical role, unclassified); DEW (Device component use);

ANST (Analytical study); USES (Uses)

peptide and small mol. **microarray** for high throughput cell adhesion and functional assays

919-30-2 CAPLUS

1. Propylamine, 3-(triethoxysilyl)- (9CI) (CA INDEX NAME)

OEt

EtO Si (CH₂)₃ NH₂

OEt

REFERENCE COUNT: 42 THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L45 ANSWER 16 OF 41 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 2001:159116 CAPLUS

DOCUMENT NUMBER: 154:307437

TITLE: Controlled immobilization of DNA molecules using chemical modification of mica surfaces for atomic force microscopy: Characterization in air

AUTHOR(S): Memura, Kazuo; Ishikawa, Mitsuru; Kurada, Keiko

CORPORATE SOURCE: Joint Research Center for Atom Technology (JRCAT)-Angstrom Technology Partnership (ATP), Tsukuba, Ibaraki, 305-0846, Japan

SOURCE: Analytical Biochemistry (2001), 295(2), 232-237
CODEN: ANBCA2; ISSN: 0003-2687

PUBLISHER: Academic Press

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Immobilization of biomols. on surfaces while keeping the max. conformational flexibility of the mols. is one of the most important techniques for at. force microscopy imaging. We have developed two methods of controlling adsorption of DNA mols. on mica surfaces. The first method is the use of a mica surface modified with dild. 3-aminopropyltriethoxysilane (APS). Here we named this a "dild. APS-treated mica (AP-mica)" technique. The second method is the use of a mica surface modified with mixed self-assembled monolayers of organosilanes. In both of the techniques, the no. of DNA mols. immobilized on a mica surface was controlled. Further, a conformational change of circular DNA, from a supercoiled to a relaxed form was obsd. for the mols. immobilized on a dild. AP-mica surface, when 254-nm UV light was irradiated. This observation demonstrated that flexibility of circular DNA mols. was kept on a dild. AP-mica surface. (c) 2001 Academic Press.

17 919-30-2, 3-Aminopropyltriethoxysilane

PL: ABI (Analytical note, unclassified); DEV (Device component use);

ANST (Analytical study); USES (Uses)

(DNA immobilization using chem. modification of mica surfaces for at. force microscopy: characterization in air)

EN 919-30-2 CAPLUS

CN 1-Propanamine, 3-(triethoxysilyl)- (9CI) (CA INDEX NAME)

OEt

EtO Si (CH₂)₃ NH₂

OEt

REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L45 ANSWER 17 OF 41 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 2001:152167 CAPLUS

DOCUMENT NUMBER: 154:159906

TITLE: Method for the covalent immobilization and labeling of biopolymers especially the preparation of nucleic acids

microarrays
 INVENTOR(S): Ansorge, Wilhelm; Faulstich, Konrad
 PATENT ASSIGNEE(S): Europaisches Laboratorium Fuer Molekularbiologie
 (EMBL), Germany
 PUBLICATION: ECT Int. Appl., 33 pp.
 CODEN: PIMM2
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY APP. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000-1014585	A1	20000301	WO 2000-EP8193	20000822
W: AE, AG, AL, AM, AT, AU, AV, BA, BF, BG, BH, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DU, EC, EE, EG, FI, GE, GD, GE, GH, GM, HR, HU, IB, IL, IN, IS, IT, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MF, MH, MN, MX, MY, MZ, NA, NZ, PL, PT, RO, RU, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TV, UA, UG, UK, US, VN, YU, ZA, ZW, AM, AZ, BY, KB, KZ, MD, RU, TD, TM EN: BR, BN, BE, BS, MW, ME, SD, JL, SE, TS, DG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GE, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, NE, NG, SN, TD, TG DE 1001607 A1 20010301 DE 2000-1001607 A 20000331 EP 1212466 A1 20020612 EP 2000-200356 20000822 R: AT, BE, CH, DE, DK, EC, FR, GB, GE, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL PRIORITY APPL. INFO.: DE 1999-19946377 A 19990824 DE 1001-1001607 A 20000331 WO 2000-EP8193 W 20000822				

AB The invention relates to methods for covalent immobilization of biopolymers, esp. those of nucleic acids, on a solid phase. Covalent bonds are made between primary or and secondary amino groups of said biopolymers and groups of the solid phase which react with said amino groups. Silica-based solid phases with defined functional groups are used for the immobilization of 5' amine-modified nucleotides; the prepd. DNA microarrays are used in amplification procedures.

IT 51895-58-0

RL: DEV (Device component use); USES (Uses)

(method for covalent immobilization and labeling of biopolymers esp. prepn. of nucleic acid microarrays)

EN 51895-58-0 CAPLUS

CI 1,6-Hexanediamine, N-[3-(trimethoxysilyl)propyl]- (9CI) (CA INDEX NAME)

OMG

MOO S1 (CH₂)₃ NH (CH₂)₆ NH₂

OMG

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE EE FORMAT

LI ANSWER 18 OF 41 CAPLUS COPYRIGHT 2001 APS

ACCESSION NUMBER: 2001:3114 0 CAPLUS

SEQUENCE NUMBER: 184:70266

TITLE: Oligonucleotide arrays for high resolution HLA typing

INVENTOR(S): Petersdorf, Efi; W.; Guo, Zhen; Hansen, John A.;

Hoon, Leroy

PATENT ASSIGNEE(S): Fred Hutchinson Cancer Research Center, USA;

University of Washington

Searched by Barb O'Brien, STIC 308-4291

SOURCE: PCT Int. Appl., 83 pp.
 CODEN: P1XXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000/019036	A1	20001228	WO 2000-0816722	20000616

W: AU, CA, H, US

RN: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE

PRIORITY APPLIC. INFO.: US 1999-139843F P 19990617

AB Arrays of HLA Class I oligonucleotide probes on a solid support are provided, wherein the probes are sufficient to represent at least 80% of the known polymorphisms in exons 2 and 3 of the HLA Class I locus.

11 13822-56-5, Aminopropyltrimethoxysilane

EL: APU (Analytical role, unclassified); BUU (Biological use, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)

(solid support derivatized with; oligonucleotide

arrays for high resolu. HLA typing and transplant compatibility anal.)

EN 13822-56-5 CAPLUS

CN 1-Propanamine, 3-(trimethoxysilyl)- (9CI) (CA INDEX NAME)

OMe

MeO Si (CH₂)₃ NH₂

OMe

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

141 ANSWER 1 OF 41 CAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 2000:0989:9 CAPLUS

DOCUMENT NUMBER: 134:292351

TITLE: Covalent Attachment of DNA to glass supports using a new silane coupling agent and chemiluminescent detection

AUTHOR(S): Zhang, Guojun; Zhou, Yikai; Wu, Xiaoyan; Yuan, Jinwei; Ren, Shu

CORPORATE SOURCE: Institute of Environmental Medicine, Tongji Medical University, Wuhan, 430030, Peop. Rep. China

SOURCE: Journal of Tongji Medical University (2000), 20(2), 89-91

CODEN: JTMUEI; ISSN: 0257-716X

PUBLISHER: Tongji Medical University

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A new kind of silane coupling agent, N-(.beta.-aminoethyl)-.gamma.-aminopropyl triethoxysilane, was used for DNA direct attachment on the surfaces of glass supports, then the immobilized DNA was hybridized with horseradish peroxidase (HRP)-labeled probe, and detected by using enhanced chemiluminescent method. In comparison with .gamma.-aminopropyl triethoxysilane, the detection limits (S/N) of DNA were 10 pg and 75 pg resp. Several exptl. conditions of DNA attaching to glass supports were investigated, and the system of hybridization of nucleic acid on the surfaces of glass supports was developed.

IT 919-30-2, 3-APTES

RL: AN (Analytical role, unclassified); BAC (Biological activity or effect), except adverse; BPR (Biological process); BSN (Biological study, unclassified); ANST (Analytical study); BDL (Biological study); PROC (Process)

covalent attachment of DNA to glass supports using a new silane

coupling agent and chemiluminescent detection

RI 219-8-8 CAPLUS

TI 1-Propanamine, 3-(triethoxysilyl)- (9CI) (CA INDEX NAME)

OEt

EM 51 (CH₂)₃ NH₂

Et

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

44 ANSWER 20 OF 41 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 2000:679668 CAPLUS

DOCUMENT NUMBER: 134:159699

TITLE: Protein microarrays for monitoring of structural changes of proteins via surface enhanced metal nano cluster resonance

AUTHOR(S): Mayer, Christian; Palkovits, Roland; Bauer, Georg; Schalkhammer, Thomas

CORPORATE SOURCE: Kibitzer G. for Biotechnology, FU-Belitt, Belitt, 1628BC, Neth.

SOURCE: Micro Total Analysis Systems 2000, Proceedings of the Intl.TAS Symposium, 4th, Enschede, Netherlands, May 14-18, 2000 (2000), 551-556. Editor(s): Van den Berg, Albert; Olthuis, W.; Bergveld, Piet. Kluwer Academic Publishers: Dordrecht, Neth.

CODEN: 69AJFE

DOCUMENT TYPE: Conference

LANGUAGE: English

AB Structural changes of ultra thin protein layers caused by changes in microenvironment, meaning a conformational change of the protein, were transduced into a optical signal obsd. directly as a color change of a biochip surface. We have successfully coated proteins as thin films of 10 to 100 nm onto optically reflecting ultra-flat and ultra-pure chip-surfaces via microdotting, spin-coating and subsequent photocrosslinking. The optical resonance effect was obtained by deposition of metal nano-clusters on top of the proteins. The response of this protein biochip array was measured spectroscopically in the visible and IR range of the spectrum. This set-up enabled us to transduce a change of protein conformation of various serum proteins and enzymes into a signal quant., reversibly and directly visible to the human eye.

17 3179-76-8

RL: NW (Other use, unclassified); USES (Uses)

protein **microarrays** for monitoring of structural changes of

proteins via surface enhanced metal nano cluster resonance)

RI 3179-76-8 CAPLUS

TI 1-Propanamine, 3-(diethoxymethylsilyl)- (9CI) (CA INDEX NAME)

OEt

Me Si (CH₂)₃ NH₂

OEt

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE REFORMAT

L45 ANSWER 21 OF 41 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 2000:3:4005 CAPLUS

DOCUMENT NUMBER: 1-3:23230

TITLE: Methods and compositions for performing an array of chemical reactions on a support surface

INVENTOR(S): Zibata, John A.

PATENT ASSIGNER(S): Syntax Biochip, Inc., USA

SOURCE: PCT Int. Appl., 157 pp.

CODEN: PIXAD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 4

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 1999-001034	A2	20000609	WO 1999-US28021	19991123
WO 1999-001034	A3	20000610		

W: AE, AL, AN, AT, AU, AZ, BA, BB, BG, BE, BY, CA, CH, CN, CR, CU, CL, DE, DK, DM, EE, EG, FI, GB, GD, GE, GH, GM, GR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LA, LB, LC, LR, LS, LT, LU, LV, MA, MG, MH, MK, MN, MW, MX, MY, NG, NZ, OL, OM, OS, PA, PE, PG, PH, PK, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, SM, SN, SR, ST, SV, TC, TD, TF, TH, TJ, TM, TN, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AT, BY, KG, KL, MD, RU, TC, TM

EW: CH, GM, KE, LG, HW, SI, SL, SZ, TL, UG, EW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, JP, MC, NL, PT, SE, BF, BG, CF, CG, CI, CM, CA, CN, GW, ML, MR, NE, NG, TD, TG

EP 1100004	A2	20001219	EP 1999-961813	19991123
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R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, CZ, FI, EG

PRIORITY APPENL. INFO.: US 1999-110527P P 19991201
US 1999-326479 A 19990604
WO 1999-US28021 W 19991123

AB Compos. and methods are provided for performing regionally selective solid-phase chem. synthesis of org. compds. Such methods may employ solvent-resistant photoresist compns. to prep. arrays of org. compds., such as ligands, for use within a variety of diagnostic and drug discovery assays. Ligand-arrays may comprise, for example, nucleobase polymers that are resistant to degradative enzymes. DNA probes and enalaprilat analogs were synthesized on glass slides using a photoresist method and used in hybridization assays and ACE inhibitory activity screening.

IT 71-30-7, Cytosine 73-40-5, Guanine

RL: DEV (Device component use); PRP (Properties); USES (Uses)

array of nucleobase polymers contg.; methods and compns. for performing arrays of chem. reactions on support surfaces using photoresists)

EN 71-30-7 CAPLUS

CN 2(1H)-Pyrimidinone, 4-amino- (9CI) (CA INDEX NAME)

H
H
H

BN 73-4-11 CAPLUS
 CI 6H-Purin-6-one, 2-amino-1,7-dihydro- (9CI) (CA INDEX NAME)

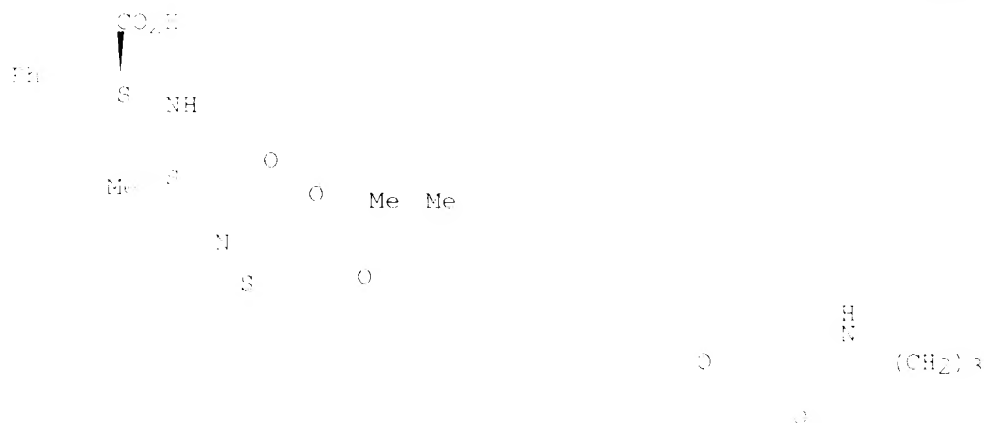
H
H
H

N NH

273752-55-9DP, immobilized 273752-56-0DP,
 immobilized 273752-57-1DP, immobilized
 273752-58-2DP, immobilized 273752-59-3DP,
 immobilized 273752-60-6DP, immobilized
 273752-61-7DP, immobilized 273752-62-8DP,
 immobilized 273752-63-9DP, immobilized
 EL: DEV (Device component use); PEP (Physical, engineering or chemical
 process); ECT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
 PROC (Process); RACT (Reactant or reagent); USES (Uses)
 (prepr. and detachment of; methods and comps. for performing arrays of
 chem. reactions on support surfaces using photoresists)
 BN 273752-55-9 CAPLUS
 CI L-Proline, N-[(1S)-1-carboxy-2-phenylethyl]-L-alanyl-,
 2-[[1,1-dimethyl-3-[4-[2-oxo-2-[[3-(triethoxysilyl)propyl]amino]ethoxy]phen-
 yl]propyl] ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



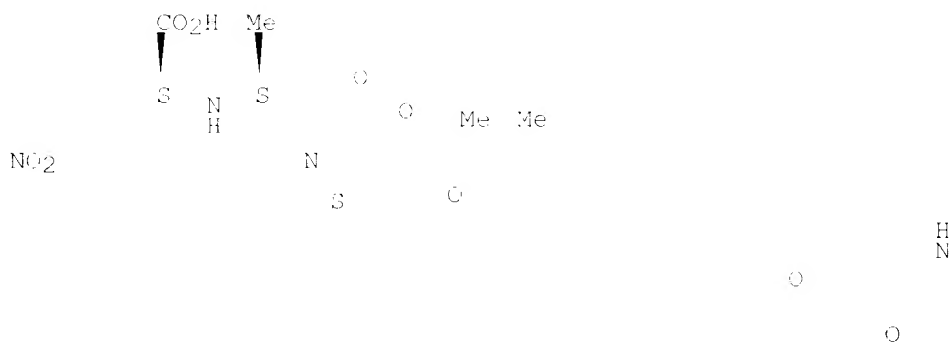
PAGE 1-B

EtO
OEt
Si
OEt

RN 273752-56-0 CAPLUS
CN L-Proline, N-[(1S)-1-carboxy-2-(2-nitrophenyl)ethyl]-L-alanyl-,
2-[1,1-dimethyl-3-[4-[2-oxo-2-[[3-(triethoxysilyl)propyl]amino]ethoxy]phen-
yl]propyl] ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B

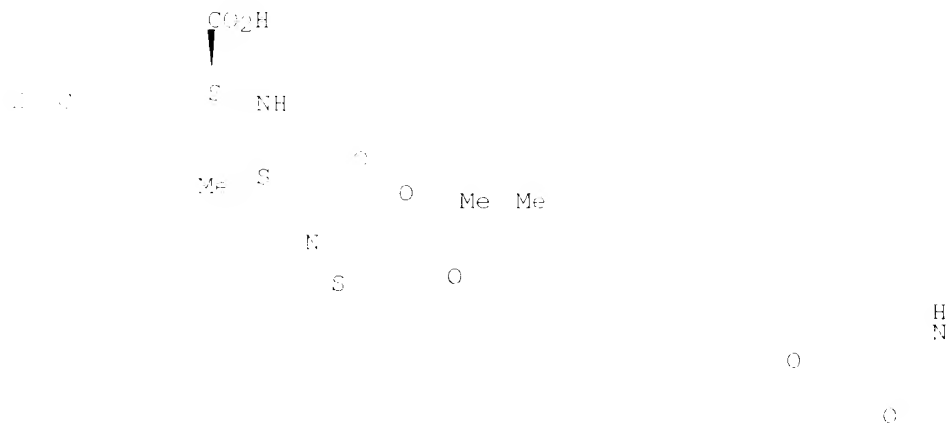
EtO
OEt
Si
OEt

RN 273752-57-1 CAPLUS
CN L-Proline, N-[(1S)-1,3-dicarboxypropyl]-L-alanyl-, 2-[1,1-dimethyl-3-[4-[2-
oxo-2-[[3-(triethoxysilyl)propyl]amino]ethoxy]phenyl]propyl] ester (9CI)

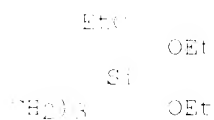
(CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



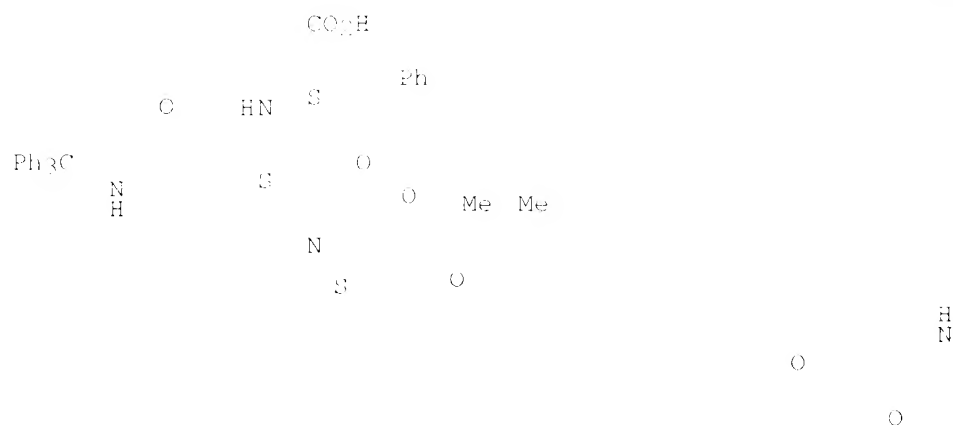
PAGE 1-B



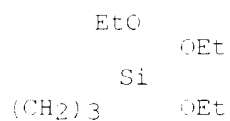
273751-58-2 CAPLUS
 L-Proline, N2-[(1S)-1-carboxy-2-phenylethyl]-N-(triphenylmethyl)-L-
 asparaginyl-, 2-[1,1-dimethyl-3-[4-[2-oxo-2-[[3-
 (triethoxysilyl)propyl]amino]ethoxy]phenyl]propyl] ester (9CI) (CA INDEX
 NAME)

Absolute stereochemistry.

PAGE 1-A



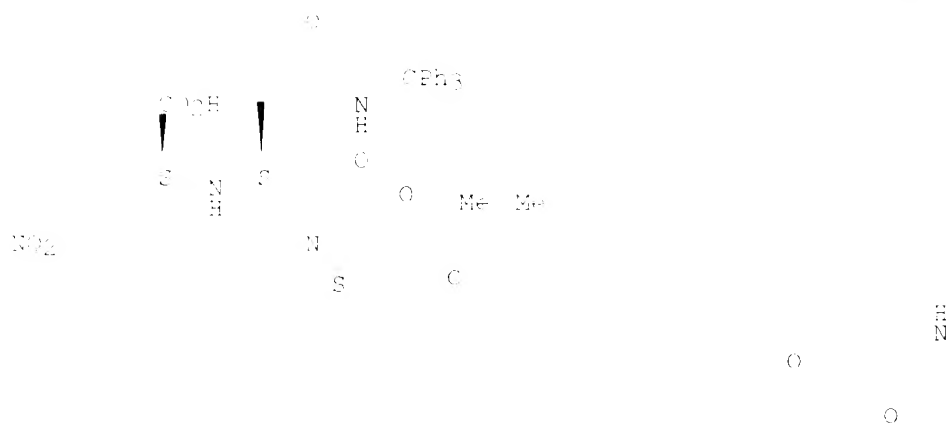
PAGE 1-B



RN 273752-53-3 CAPLUS
 CN L-Proline, N2-[(1S)-1-carboxy-2-(2-nitrophenyl)ethyl]-N-(triphenylmethyl)-
 L-asparaginyl-, 2-[1,1-dimethyl-3-[4-[2-oxo-2-[[3-
 (triethoxysilyl)propyl]amino]ethoxy]phenyl]propyl] ester (9CI) (CA INDEX
 NAME)

Absolute stereochemistry.

PAGE 1-A



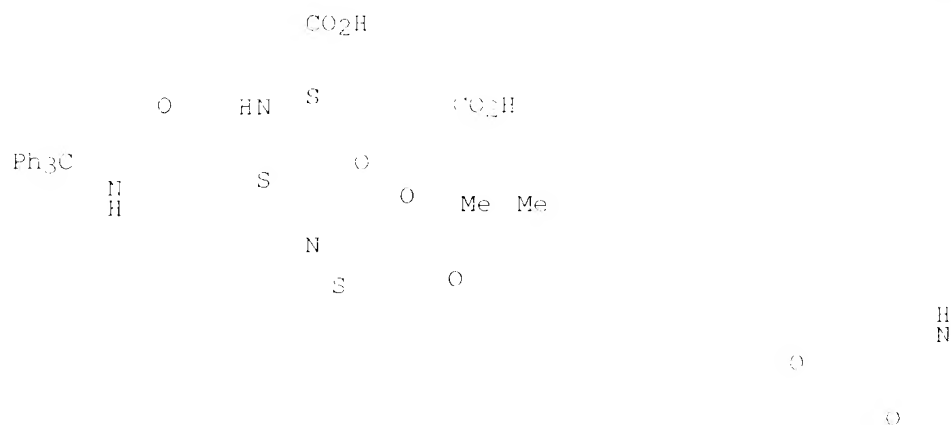
PAGE 1-B

EtO
OEt
Si
(CH₂)₃ OEt

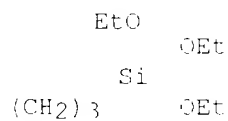
SI 273751-60-6 CAPLUS
CN L-Proline, N2-[(1S)-1,3-dicarboxypropyl]-N-(triphenylmethyl)-L-asparaginyl-
2-[1,1-dimethyl-3-[4-[2-oxo-2-[[3-(triethoxysilyl)propyl]amino]ethoxy]ph
enyl]propyl] ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B



RN 273752-61-7 CAPLUS
 CN L-Proline, N-[(1S)-1-carboxy-2-phenylethyl]-O-(1,1-dimethylethyl)-L-seryl-
 , 1-[1,1-dimethyl-3-[4-[2-oxo-2-[[3-(triethoxysilyl)propyl]amino]ethoxy]ph
 enyl]propyl] ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



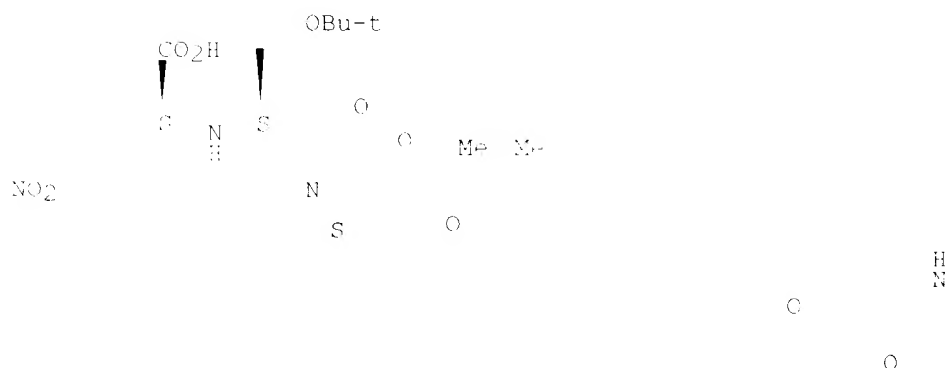
PAGE 1-B

F⁺O
OEt
Si
OEt

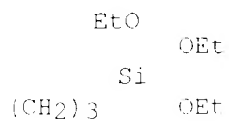
RM 273753-62-8 CAPLUS
 TI L-Proline, N-[(1S)-1-carboxy-2-(2-nitrophenyl)ethyl]-O-(1,1-dimethylethyl)-
 L-seryl-, 2-[1,1-dimethyl-3-[4-[2-oxo-2-[[3-(triethoxysilyl)propyl]amino]e
 thoxyphenyl]propyl] ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



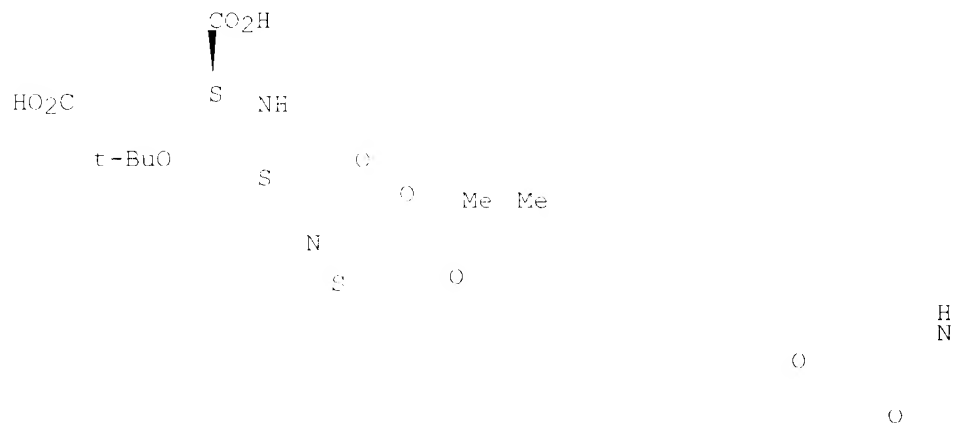
PAGE 1-B



RN 273752-63-9 CAPLUS
 CN L-Proline, N-[(1S)-1,3-dicarboxypropyl]-O-(1,1-dimethylethyl)-L-seryl-,
 2-[1,1-dimethyl-3-[4-[2-oxo-2-[[3-(triethoxysilyl)propyl]amino]ethoxy]phen-
 yl]propyl] ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B

Et+ OEt
 OEt
 (CH₂)₂ OEt

11 ANSWER 22 OF 41 CAPLUS COPYRIGHT 2002 APS
 PATENT NUMBER: 2000:54038 CAPLUS
 DOCUMENT NUMBER: 132:90351
 TITLE: Photoluminescent semiconductor materials
 INVENTOR(S): Armstrong, David W.; Lafrance, Martine L.
 PATENT ASSIGNEE(S): Iatrogenic Corporation, Can.
 SOURCE: ECT Int. Appl., 37 pp.
 CODEN: PINKDE
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 200006231	A1	20000110	WO 1999-CA642	19990709
W: AE, AL, AN, AI, AR, AS, EA, BE, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EN, ES, FI, GB, GP, GE, GH, GM, GR, HU, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LF, LG, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, EU, TC, TM RW: GR, GM, KE, LS, MW, SD, SL, SE, TG, TW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LI, MC, NL, PT, SE, BE, BG, CF, CG, CI, CM, GA, GN, GW, ML, ME, NE, SN, TD, TG AU 9947682 A1 20000201 AU 1999-47682 19990719 EP 1148700 A1 20020414 EP 1999-9109-9 19990719 R: AT, BE, CH, DE, DK, EN, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY				

PRIORITY APPLN. INFO.: US 1997-03414P P 19980710
 WO 1999-CA642 W 19990719

AB Semiconductor materials having a porous texture are described which are modified with a recognition element and produce a photoluminescent response on exposure to electromagnetic radiation. The semiconductor materials may be doped, and they may be supported on a core material. The recognition elements, which can be selected from biomol., org., and inorg. moieties, interact with a target analyte to produce a modulated photoluminescent response, as compared with that of semiconductor materials modified with a recognition element only. The target analyte may be an inorg. or org. compd. or biomol., or an organism or a material derived from or produced by an organism. Methods for detecting an analyte are also described which entail comparing photoluminescence from the materials in a sample to that from the materials in the absence of a sample.

IT 919-30-2DP, .gamma.-Aminopropyltriethoxysilane, reaction products with oxidized porous silicon and recognition moieties 2530-83-8DP, 3-Glycidioxypropyltrimethoxysilane, reaction products with oxidized porous silicon and recognition moieties
 RI: AEG (Analytical reagent use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USEC (Uses)
 opacoluminescent indicators based on surface-modified porous semiconductors'
 RI 919-30-2 CAPLUS
 CI 1-Propanamine, 3-(triethoxysilyl)- (9CI) (CA INDEX NAME)

OEt

E.O. Si (CH₂)₃ NH₂

OEt

RI 919-30-2 CAPLUS

CI 1-Propanamine, 3-(trimethoxy[3-(oxiranylmethoxy)propyl]- (9CI) (CA INDEX NAME)

O

OMe

CH₂ C (CH₂)₃ Si OMe

OMe

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L15 ANSWER 01 OF 41 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1999:71876-1 CAPLUS

DOCUMENT NUMBER: 131:332971

TITLE: Chemically modified nucleic acids having enhanced lability towards solid supports, and uses thereof in high-density microarrays

INVENTOR(S): Bradley, Allan; Cai, Wei Wen

PATENT ASSIGNEE(S): Baylor College of Medicine, USA

SOURCE: PCT Int. Appl., 38 pp.

CODEN: PINKD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9957323	A1	19991111	WO 1999-US9810	19990504
W: AU, CA, JP				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
US 6048695	A	20000411	US 1998-71876	19980504
CA 2326684	AA	19991111	CA 1999-2326654	19990504
AU 9957861	A1	19991113	AU 1999-37361	19990504
EP 1075544	A1	20010214	EP 1999-920342	19990504
R: AT, BE, CH, DE, DK, EC, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 200013814	T2	20000514	JP 2000-547274	19990504
PRIORITY APPLN. INFO.:				
US 1998-71876 A 19980504				
WO 1999-US9810 W 19990504				

OTHER SOURCE(S): MARPAT 131:332971

AB The invention relates to novel chem. modified nucleic acids with enhanced lability towards solid supports, such as glass. These modified nucleic acids can be readily affixed to solid supports, for instance, a glass surface, without first derivatising the glass surface. In certain embodiments, the chem. modified nucleic acids of the invention are so modified via (1) compds. having a ring ether and an alkoxysilane group, (2) compds. having an amino group and an alkoxysilane group, (3) halogenated silanes, or (4) amine-contg. silanes reacted with brominated nucleic acids. High-d. microarrays based on these modified nucleic acids as well as methods for prepg. these microarrays are also useful.

BT 919-30-2DP, 3-Aminopropyltriethoxysilane, bound to a nucleic acid
2530-83-8DP, 3-Glycidoxypropyltrimethoxysilane, bound to a nucleic acid

EL: ARG (Analytical reagent use); BPN (Biosynthetic preparation);
ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)

chem. modified nucleic acids having enhanced lability towards solid supports, and uses thereof in high-d. microarrays)

BT 919-30-2 CAPLUS

BT 1-Propanamine, 3-(triethoxysilyl)- (9CI) (CA INDEX NAME)

OEt

BT SI (CH₂)₃ NH₂

OEt

BT 2530-83-8 CAPLUS

BT Silane, trimethoxy[3-(oxiranylethoxy)propyl]- (9CI) (CA INDEX NAME)

BT OMe

CH₂ O (CH₂)₃ Si OMe

OMe

BT 71-30-7, Cytosine

EL: BOC (Biological occurrence); BSU (Biological study, unclassified);
BIOL (Biological study); OCCU (Occurrence)

chem. modified nucleic acid comprising; chem. modified nucleic acids having enhanced lability towards solid supports, and uses thereof in high-d. microarrays)

BT 71-30-7 CAPLUS

BT 2(1H)-Pyrimidinone, 4-amino- (9CI) (CA INDEX NAME)

H
N

BT 1591-21-5 14867-28-8, 3-Iodopropyltrimethoxysilane
70892-80-7, 3-Bromooctyltrichlorosilane 82985-34-0,
3-Bromooctyltrimethoxysilane

EL: ANU (Analytical role, unclassified); BUU (Biological use,

unclassified); ANST (Analytical study); BIOL (Biological study);
USES (Uses)

Use in modifying nucleic acids; chem. modified nucleic acids having
enhanced lability towards solid supports, and uses
thereof in high-d. microarrays)

BN 1591-11-5 CAPLUS

CH Silane, dichloro(4-chlorobutyl)methyl- (7CI, 8CI, 9CI) (CA INDEX NAME)

Cl

Me Si (CH₂)₄ Cl

Cl

BN 14867-28-8 CAPLUS

CH Silane, (3-iodopropyl)trimethoxy- (7CI, 8CI, 9CI) (CA INDEX NAME)

OMe

MeO Si (CH₂)₃ I

OMe

BN 7-612-80-7 CAPLUS

CH Silane, (6-bromooctyl)trichloro- (9CI) (CA INDEX NAME)

Cl

Cl Si (CH₂)₃ Br

Cl

BN 8-285-14-0 CAPLUS

CH Silane, (8-bromooctyl)trimethoxy- (9CI) (CA INDEX NAME)

OMe

MeO Si (CH₂)₈ Br

OMe

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

145 ANSWER 24 OF 41 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1999:619530 CAPLUS

DOCUMENT NUMBER: 131:297347

TITLE: Addressable protein arrays on solid supports using
capture oligonucleotides and RNA-protein fusions

INVENTOR(S): Kaimelis, Robert G.; Wagner, Richard

PATENT ASSIGNEE(S): Paylos, Inc., USA

SOURCE: PCT Int. Appl., 57 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

Searched by Barb O'Bryen, STIC 308-4291

FAMILY ACCT. NUM. COUNT: 1
FAMILY IDENTIFICATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9011777	A1	19901014	WO 1999-037203	19990321
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DF, EE, EG, FI, GE, GL, GR, GU, HA, HD, HE, HF, HG, HI, IL, IN, IS, JP, KE, KG, KP, KR, KU, LG, LF, LP, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NU, PL, PT, PG, PU, SD, SE, SG, SI, SK, SL, TG, TM, TR, TT, UA, UB, UL, UN, YU, ZA, ZW, AA, AB, AC, AD, AE, AF, AG, AH, AI, AJ, AK, AL, AM, AN, AO, AP, AQ, AR, AS, AT, AU, AV, AW, AX, AY, AZ, BA, BB, BC, BD, BE, BF, BG, BH, BI, BJ, BK, BL, BM, BN, BO, BP, BQ, BR, BS, BT, BU, BV, BW, BX, BY, BZ, CA, CB, CC, CD, CE, CF, CG, CH, CI, CJ, CK, CL, CM, CN, CO, CP, CQ, CR, CS, CT, CU, CV, CW, CX, CY, CZ, DA, DB, DC, DD, DE, DF, DG, DH, DI, DJ, DK, DL, DM, DN, DO, DP, DQ, DR, DS, DT, DU, DV, DW, DX, DY, DZ, EA, EB, EC, ED, EE, EF, EG, EH, EI, EJ, EK, EL, EM, EN, EO, EP, EQ, ER, ES, ET, EU, EV, EW, EX, EY, EZ, FA, FB, FC, FD, FE, FF, FG, FH, FI, FJ, FK, FL, FM, FN, FO, FP, FQ, FR, FS, FT, FU, FV, FW, FX, FY, FZ, GA, GB, GC, GD, GE, GF, GH, GI, GJ, GK, GL, GM, GN, GO, GP, GQ, GR, GS, GT, GU, GV, GW, GX, GY, GZ, HA, HB, HC, HD, HE, HF, HG, HH, HI, HJ, HK, HL, HM, HN, HO, HP, HQ, HR, HS, HT, HU, HV, HW, HX, HY, HZ, IA, IB, IC, ID, IE, IF, IG, IH, II, IJ, IK, IL, IM, IN, IO, IP, IQ, IR, IS, IT, IU, IV, IW, IX, IY, IZ, JA, JB, JC, JD, JE, JF, JG, JH, JI, JJ, JK, JL, JM, JN, JO, JP, JQ, JR, JS, JT, JU, JV, JW, JX, JY, JZ, KA, KB, KC, KD, KE, KF, KG, KH, KI, KJ, KK, KL, KM, KN, KO, KP, KQ, KR, KS, KT, KU, KV, KW, KX, KY, KZ, LA, LB, LC, LD, LE, LF, LG, LH, LI, LJ, LK, LL, LM, LN, LO, LP, LQ, LR, LS, LT, LU, LV, LW, LX, LY, LZ, MA, MB, MC, MD, ME, MF, MG, MH, MI, MJ, MK, ML, MN, MO, MP, MQ, MR, MS, MT, MU, MV, MW, MX, MY, MZ, NA, NB, NC, ND, NE, NF, NG, NH, NI, NJ, NK, NL, NM, NO, NP, NQ, NR, NS, NT, NU, NV, NW, NX, NY, NZ, OA, OB, OC, OD, OE, OF, OG, OH, OI, OJ, OK, OL, OM, ON, OO, OP, OQ, OR, OS, OT, OU, OV, OW, OX, OY, OZ, PA, PB, PC, PD, PE, PF, PG, PH, PI, PJ, PK, PL, PM, PN, PO, PP, PQ, PR, PS, PT, PU, PV, PW, PX, PY, PZ, QA, QB, QC, QD, QE, QF, QG, QH, QI, QJ, QK, QL, QM, QN, QO, QP, QQ, QR, QS, QT, QU, QV, QW, QX, QY, QZ, RA, RB, RC, RD, RE, RF, RG, RH, RI, RJ, RK, RL, RM, RN, RO, RP, RQ, RR, RS, RT, RU, RV, RW, RX, RY, RZ, SA, SB, SC, SD, SE, SF, SG, SH, SI, SJ, SK, SL, SM, SN, SO, SP, SQ, SR, SS, ST, SU, SV, SW, SX, SY, SZ, TA, TB, TC, TD, TE, TF, TG, TH, TI, TJ, TK, TL, TM, TN, TO, TP, TQ, TR, TS, TT, TU, TV, TW, TX, TY, TZ, UA, UB, UC, UD, UE, UF, UG, UH, UI, UJ, UK, UL, UM, UN, UO, UP, UQ, UR, US, UT, UU, UV, UW, UX, UY, UZ, VA, VB, VC, VD, VE, VF, VG, VH, VI, VJ, VK, VL, VM, VN, VO, VP, VQ, VR, VS, VT, VU, VV, VW, VX, VY, VZ, WA, WB, WC, WD, WE, WF, WG, WH, WI, WJ, WK, WL, WM, WN, WO, WP, WQ, WR, WS, WT, WU, WV, WW, WX, WY, WZ, XA, XB, XC, XD, XE, XF, XG, XH, XI, XJ, XK, XL, XM, XN, XO, XP, XQ, XR, XS, XT, XU, XV, XW, XX, XY, XZ, YA, YB, YC, YD, YE, YF, YG, YH, YI, YJ, YK, YL, YM, YN, YO, YP, YQ, YR, YS, YT, YU, YV, YW, YX, YZ, ZA, ZB, ZC, ZD, ZE, ZF, ZG, ZH, ZI, ZJ, ZK, ZL, ZM, ZN, ZO, ZP, ZQ, ZR, ZS, ZT, ZU, ZV, ZW, ZX, ZY, ZZ	AA	19901014	CA 1990-232653	19900331
CA 1990656	A1	19901025	AU 1990-54036	19901331
EP 1990656	A1	20-19117	EP 1990-016223	19900331
R: AT, BE, CH, DE, DF, ES, FR, GB, GE, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JF 200251050	T2	20020409	JF 2000-542484	19990331
PRIORITY APPLN. INFO.:			US 1998-30686H P	19980403
			WO 1999-037203 W	19990331

Disclosed herein are arrays of nucleic acid-protein fusions which are immobilized to a solid surface through capture probes which include a non-nucleosidic spacer group and an oligonucleotide sequence to which the fusion (such as an RNA-protein fusion) is bound. RNA-protein fusions are synthesized by in vitro translation of mRNA pools contg. a peptide acceptor such as puromycin attached to their 3'-ends, such that a covalent amid bond forms between the 3'-end of the mRNA and the C-terminus of the protein which it encodes. The arrays are prepd. by fixing oligonucleotide sequences, the capture probes, to a support in a defined array; the capture probes are then used to bind nucleic acid-protein fusions through base pairing between the nucleic acid component of the fusion and a complementary capture probe. The result of the binding interactions between the fusions and the capture probes is a defined, addressable array of proteins attached to a solid support. Also disclosed herein are solid supports on which these arrays are immobilized as well as methods for their prepn. and use (for example, for screening for protein-compd. interactions such as protein-therapeutic compd. interactions). Exemplary fusion chips are generated for FLAG, HALL, and c-Myc epitope fusions.

13822-56-5

FI: DEV (Device component use); ECT (Eeactant); EACT (Eeactant or reagent); USES (Uses)

Addressable protein arrays on **solid supports** using
(capture oligonucleotides and FNA-protein fusions)

BN 13922-56-5 CAPLUS

1-Propanamine, 3-(trimethoxysilyl)- (9CI) (CA INDEX NAME)

OM₂

 NH_2

1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 26

REFERENCED COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

14 ANSWER 25 OF 41 CAPLUS COPYRIGHT 2002 ACS
ADMISSION NUMBER: 1999:458439 CAPLUS
EXAMINER NUMBER: 141:164790

Searched by Barb O'Brien, STW 306-4441

TITLE: Preparation and evaluation of p-tert-butylcalix[4]arene-bonded silica stationary phases for high-performance liquid chromatography
AUTHOR(S): Xiao, Xiang-Zhu; Feng, Yu-Qi; Da, Shi-Lu; Zhang, Yan
CORPORATE SOURCE: Dep. Chemistry, Wuhan Univ., Wuhan, 430072, Peop. Rep. China
SOURCE: Chromatographia (1999), 44(11/12), 643-648
CODEN: CHRGB7; ISSN: 0009-5933
PUBLISHER: Friedr. Vieweg & Sohn Verlagsgesellschaft mbH
DOCUMENT TYPE: Journal
LANGUAGE: English

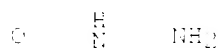
AB A method is proposed for prepn. of a 4-tert-butylcalix[4]arene-bonded silica stationary phase. Chem. modified 4-tert-butylcalix[4]arene is attached to silica gel by using [γ -(ethylenediamino)propyl]triethoxysilane as coupling reagent. The bonded phase was characterized by ^{29}Si and ^{13}C cross polarization/magic angle spinning solid-state NMR. The retention behavior of polycyclic arom. hydrocarbons (PAHs), nucleosides, and nucleobases was investigated on the bonded phase in the reversed-phase mode.

IT 71-30-7, Cytosine

FL: ANT (Analyte); ANST (Analytical study)
(prepn. and evaluation of tert-butylcalixarene-bonded silica stationary phases for HPLC)

EN 71-30-7 CAPLUS

CN 2(1H)-Pyrimidinone, 4-amino- (9CI) (CA INDEX NAME)



N

IT 30858-91-4DP, [γ -(Ethylenediamino)propyl]triethoxysilane, reaction product with silica gel and tert-butyl[(chlorocarbonyl)methoxy]hydroxy-calixarene

FL: ARU (Analytical role, Unclassified); SPN (Synthetic preparation);

ANST (Analytical study); PREP (Preparation)

(prepn. and evaluation of tert-butylcalixarene-bonded silica stationary phases for HPLC)

EN 30858-91-4 CAPLUS

CN 1,2-Ethanediamine, N,N'-bis[3-(triethoxysilyl)propyl]- (9CI) (CA INDEX NAME)

OEt

OEt

EtO Si (CH₂)₃ NH CH₂ CH₂ NH (CH₂)₃ Si OEt

OEt

OEt

REFERENCE COUNT: 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L45 ANSWER 16 OF 41 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1999:423814 CAPLUS

DOCUMENT NUMBER: 131:211144

TITLE: Atomic force microscopy imaging of DNA covalently immobilized on a functionalized mica substrate

AUTHOR(S): Shlyakhtenko, Luda S.; Gall, Alexander A.; Weimer, Jeffrey J.; Hawn, David B.; Lyubchenko, Yuri L.

Searched by Barb O'Bryen, STIC 308-4291

DEPOSITORY: Department of Microbiology, Arizona State University,
Tempe, AZ, 85287-2701, USA
JOURNAL: Biophysical Journal (1999), 77(1), 568-574
CODEN: BIOJAU; ISSN: 0006-3495
PUBLISHER: Biophysical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A procedure for covalent binding of DNA to a functionalized mica substrate is described. The approach is based on photochem. crosslinking of DNA to immobilized psoralen derivs. A tetrafluoropentyl (TFP) ester of tri-Na psoralen (trioxalen) was synthesized, and the procedure to immobilize it onto a functionalized aminopropyl mica surface (AP-mica) was developed. DNA mols. were cross-linked to trioxalen moieties by UV irradiation of complexes. The steps of the sample prepn. procedure were analyzed with XPS (XPS). Results from XPS show that an AP-mica surface can be formed by vapor phase deposition of silane and that this surface can be derivatized with trioxalen. The derivatized surface is capable of binding of DNA mols. such that, after UV crosslinking, they withstand a thorough rinsing with PBS. Observations with at. force microscopy showed that derivatized surfaces remain smooth, so DNA mols. are easily visualized. Linear and circular DNA mols. were photochem. immobilized on the surface. The mols. are distributed over the surface uniformly, indicating rather even modification of AP-mica with trioxalen. Generally, the shapes of sup-molled mols. electrostatically immobilized on AP-mica and those photocross-linked on trioxalen-functionalized surfaces remain quite similar. This suggests that UV crosslinking does not induce formation of a noticeable no. of single-stranded breaks in DNA mols.

BT 919-30-2

RE: AM (Analytical role, unclassified); ANST (Analytical study)
(mica surface coated with,; imaging of DNA by at. force microscopy
based on covalent photochem. crosslinking of DNA to trioxalen
immobilized onto mica surface)

BT 919-30-3 CAPLUS

BT 1-Propanamine, 3-(triethoxysilyl)- (PCI) (CA INDEX NAME)

OE+

BT 91 (CH2)3 NH2

BT

REFERENCE COUNT: 44 THESE ARE 44 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

BT ANSWER 27 OF 41 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1999:11258 CAPLUS

DOCUMENT NUMBER: 130:149546

TITLE: Novel methods of attaching probes to a solid support
and uses thereof

INVENTOR(S): Okamoto, Tadashi; Yamamoto, Nobuko; Suzuki, Tomochiro

PATENT AGENCY(ES): Canon Kabushiki Kaisha, Japan

ABSTRACT: Eur. Pat. Appl., 43 pp.

CODEN: EPKXNDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACQ. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 0 6082	A2	19990208	EP 1998-836107	19980741

EP 345082 A3 19990311
E: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
IE, SI, LT, LV, FI, RO
JP 11147900 A1 19990718 JP 1998-209423 19980724
JP 2001066305 A1 20010316 JP 2000-232206 19980714
PRIORITY APPLN. INFO.: JP 1997-207837 A 19970901
JP 1997-237046 A 19971020
JP 1998-209923 A 19980724

OTHER SOURCE(S): MARPAT 130:149846

AB Provided is a method of attaching probes to a solid support in a markedly high d. and efficiency. An extremely small amt. of probe is contained within a liq., and droplets of the liq. are delivered to the solid support via an ink jet ejection method, thereby forming spots which contain the probe. Since one or more substances can bind specifically to target probes and said probes are arranged in a large no. on a solid support, the method can be used to swiftly and accurately det. a base sequence of a nucleic acid or detect a target nucleic acid in a sample.

IT 1760-24-3, KBM603 2530-83-8, KBM403

EL: ECT (Reactant); EACT (Reactant or reagent)

Several methods of attaching probes to a **solid support**
and uses thereof.

EN 1760-24-3 CAPLUS

CN 1,2-Ethanediamine, N-[3-(trimethoxysilyl)propyl]- (9CI) (CA INDEX NAME)

OMe

MeO Si (CH₂)₃ NH CH₂ CH₂ NH₂

OMe

EN 2130-11-8 CAPLUS

CN Silane, trimethoxy[3-(oxiranylmethoxy)propyl]- (9CI) (CA INDEX NAME)

O

OMe

CH₂ O (CH₂)₃ Si OMe

OMe

145 ANSWER 28 OF 41 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1999:06139 CAPLUS

DOCUMENT NUMBER: 100:163946

TITLE: Novel polyethylenimine-based biomolecule arrays

INVENTOR(S): Van Ness, Jeffrey; Tabone, John C.; Moynihan, Kristen

PATENT ASSIGNEE(S): Rapigene, Inc., USA

SOURCE: PCT Int. Appl., 50 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9904896	A1	19990204	WO 1998-US13246	19980721

W: AL, AM, AT, AU, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK,
EE, ES, FI, GB, GE, GR, HU, IL, IS, JP, KE, KG, KR, KZ, LC,
LK, LE, LS, LT, LU, LV, MD, MG, MK, MN, NW, MX, NC, NZ, PL, PT,

BO, BU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, UZ, VN,
 YD, AM, AZ, BY, EG, EZ, MD, MU, TU, TM
 BW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES,
 FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SF, BJ, CF, CG, CI,
 CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

AT 88-1525 A1 19900116 AU 1998-85925 19980721

AT 88-1546 B2 20010712

EP 88-1547 A1 20000117 EP 1998-937016 19980721

E: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
 IE, F

US 81-193 A 20001121 US 1998-120386 19980721

JP 80-151072 T2 20010707 JP 1997-503943 19980721

SECURITY RELEV. INFO.:

US 1997-533528 P 19970722

WO 1998-051846 W 19980721

AB An array of biomols. is formed from a flat solid substrate, whereby said surface is covered with a layer of polyethylenimine (PEI) and this layer is divided among a plurality of discrete first regions abutted and surrounded by a contiguous second region. The process includes the step of depositing a biomol. into the first regions while maintaining the second region substantially free of the biomol.

BT 2530-83-8, 3-(2,3-Epoxypropoxy)propyltrimethoxysilane

EL: AN (Analytical role, unclassified); RCT (Reagent); ANST (Analytical study); RACT (Reagent or reagent)

use as bifunctional coupling agent; novel polyethylenimine-based biomol. arrays.

BT 2530-83-8 CAPLUS

BT Silane, trimethoxy[3-(oxalanylmethoxy)propyl]- (9CI) (CA INDEX NAME)

OMe

CH₂ O (CH₂)₃ Si OMe

OMe

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE EE FORMAT

BT ANSWER 29 OF 41 CAPLUS COPYRIGHT 2002 ACT

ACCESSION NUMBER: 1997:258651 CAPLUS

DOCUMENT NUMBER: 127:1389

TITLE: Covalent attachment of hybridizable oligonucleotides to glass supports

AUTHOR(S): Joos, Beda; Kuster, Herbert; Cone, Richard

CORPORATE SOURCE: Div. Infectious Diseases, Univ. Hospital, Zurich, CH-8091, Switz.

SOURCE: Analytical Biochemistry (1997), 247(1), 86-101
 CODEN: ANBGA2; ISSN: 0003-2698

PUBLISHER: Academic

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A simple, rapid, and efficient method for the covalent binding of oligonucleotides to solid glass supports was developed. Glass slides were derivatized with aminophenyl or aminopropyl silanes and 5'-succinylated target oligonucleotides were attached by carbodiimide-mediated coupling. Approx. 40-50% of the applied target oligonucleotides covalently bound to the derivatized glass. Hybridizations with radioactively labeled oligonucleotide probes showed that up to 90% of the attached oligonucleotides were available for hybridization. This system can conveniently be applied for studies on hybridization and detection of nucleic acids.

BT 919-30-2DP, 3-Aminopropyltriethoxysilane, reaction products with

glass slides

EL: ARU (Analytical role, unclassified); DEV (Device component use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)

(covalent attachment of hybridizable oligonucleotides to glass supports)

RN 910-71-2 CAPLUS

CN 1-Propanamine, 3-(trietoxysilyl)- (90%) (CA INDEX NAME)

OE:

EtO Si (CH₂)₃ NH₂

OE:

L45 ANSWER 30 OF 41 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1996-037014 CAPLUS

DOCUMENT NUMBER: 123-00153

TITLE: Carbazine dyes and derivatives for pH measurement

INVENTOR(S): Smith, Roger E.

PATENT ASSIGNOR(S): Tech Medical Products, Inc., USA

SOURCE: U.S., 23 pp.

CODEN: USKRAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY APP. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5567614	A	19961020	US 1996-429622	19960427
CA 2219117	AA	19961011	CA 1996-2219117	19960426
WO 96-4284	A1	19961031	WO 1996-US5777	19960426
W: AU, AM, AT, AU, BG, BR, BY, CA, CH, CN, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI				
RW: BR, BS, BW, SD, SE, SG, SI, TH, TJ, TR, UA, UG, US, UZ, VC, VE, VJ, VN, YU, ZA, ZW				
AU 6645757	A1	19961113	AU 1996-55757	19960426
AS 66797	B2	19961022		
GB 2314606	A1	19980107	GB 1996-22470	19960426
GB 2314610	B2	19980916		
DE 1981163	T	19980401	DE 1996-196-1363	19960426
DE 1981163	C1	20020711		

PRIORITY APPL. INFO.:

US 1996-419611 A 19960427

WO 1996-US5777 W 19960426

AB A compn. for detg. pH of a soln. comprises a fluorescent carbazine dye covalently bound to a solid support. A method of detg. pH of a soln. comprises placing the compn. in the soln., contacting the compn. with a selected wavelength of light to excite fluorescence by the carbazine dye, measuring intensities of the fluorescence at two selected wavelengths, calcn. a ratio of fluorescence intensities at the two selected wavelengths, and correlating the ratio with a predetd. relation of such ratios to pH. A fiber optic system for measuring pH of a soln. with the carbazine-dye-contd. compn. is also disclosed.

IT 2530-83-8

EL: ECT (Reactant); RACT (Reactant or reagent)

(prepn. of carbazine dyes and derivs. bonded to **solid supports** for pH measurement)

2530-83-8 CAPLUS
Silane, trimethoxy[3-(oxiranylmethoxy)propyl]- (9CI) (CA INDEX NAME)

OMe

CH₂ C (CH₂)₃ Si OMe

OMe

41 ANSWER 31 OF 41 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1991:461921 CAPLUS
DOCUMENT NUMBER: 117:1921
TITLE: Oligonucleotide hybridizations on glass supports: a novel linker for oligonucleotide synthesis and hybridization properties of oligonucleotides synthesized in situ

AUTHOR(S): Masdos, Uwe; Southern, Edwin M.
CORPORATE SOURCE: Dep. Biochem., Univ. Oxford, Oxford, OX1 3QU, UK
SOURCE: Nucleic Acids Res. (1992), 20(7), 1679-84
CODEN: NARHAD; ISSN: 1363-1043

DOCUMENT TYPE: Journal
LANGUAGE: English

AB A novel linker for the synthesis of oligonucleotides on a glass support is described. Oligonucleotides synthesized on the support remain tethered to the support after ammonia treatment and are shown to take part in sequence-specific hybridization reactions. These hybridizations were carried out with oligonucleotides synthesized on ballottini solid sphere glass beads and microscope slides. The linker has a hexaethylene glycol spacer, bound to the glass via a glycidoxypropyl silane, terminating in a primary hydroxyl group that serves as starting point for automated or manual oligonucleotide synthesis.

2530-83-8

EL: USES (Uses)

glass support immobilization of, reaction with diols after, for synthesis of **solid support**-bound linker for oligonucleotide synthesis

2530-83-8 CAPLUS

Silane, trimethoxy[3-(oxiranylmethoxy)propyl]- (9CI) (CA INDEX NAME)

OMe

CH₂ C (CH₂)₃ Si OMe

OMe

41 ANSWER 32 OF 41 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1991:597102 CAPLUS
DOCUMENT NUMBER: 116:207102
TITLE: Thymine bonded-stationary phase for high performance liquid chromatography
AUTHOR(S): Zhu, Tao; Wang, Qinwei; Shen, Lianzhu; Lu, Chengxun; Fan, Yiliang
CORPORATE SOURCE: Dep. Chem., Peking Univ., Beijing, 100871, Peop. Rep. China
SOURCE: Chin. Chem. Lett. (1991), 2(7), 543-5
CODEN: CCLEB7
DOCUMENT TYPE: Journal

LANGUAGE: English

AB A new type of HPLC stationary phase contg. thymine deriv. was successfully prepd. It was found to give selective sepn. of nucleic acid bases and several purine derivs., such as caffeine and theophylline. The retention behavior and elution order of the solutes were interpreted in terms of mol. structure.

IT **919-30-2DP**, reaction products with silica gel and subsequently with thymineylpropionic acid-hydroxynorbornenedicarboximide reaction product

EL: SYN (Synthetic preparation ; ANST (Analytical study); PREP (Preparation)

(prepn. and use of, as stationary phase for sepn. of nucleic acid bases)

EN 919-30-2D CAPLUS

CN 1-Propanamine, 3-(triethoxysilyl)- (9CI) (CA INDEX NAME)

OEt

EtO Si (CH₂)₃ NH₂

OEt

IT **73-40-5, Guanine**

EL: ANST (Analytical study)

(sepn. of, from nucleic acid bases by HPLC on thymine bonded silica gel)

EN 73-40-5 CAPLUS

CN 6H-Purin-6-one, 2-amino-1,7-dihydro- (9CI) (CA INDEX NAME)

H₂N H
 N N

N NH

O

L45 ANSWER 03 OF 41 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1989:590993 CAPLUS

DOCUMENT NUMBER: 111:190933

TITLE: Silica gel or metal oxide chromatographic material and its use

INVENTOR(F): Hammer, Richard Frederick

PATENT ASSIGNEE(S): Chromatochem, Inc., USA

SOURCE: Eur. Pat. Appl., 31 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 295073	A2	19881214	EP 1988-305217	19880608
EP 295073	A3	19901214		
EP 295073	B1	19970210		
E: AT, CH, DE, FR, GB, LI, NL, SE				
CA 1520718	A1	19950727	CA 1988-568784	19880607

JP 1989-141491	A2	19890316	JP 1989-141491	19890608
US 1991-062393	B4	19910726		
AT 1989-305217	E	19890813	AT 1989-305217	19890608
US 1991-062393	A	19910831	US 1991-062393	19910402
US 1993-261456	B1	20110626	US 1993-261456	19930305

SPECIFIC AFFIN. INFO.:

US 1987-53988	A	19870608
US 1989-137765	A	19890424
US 1990-435866	B1	19900223
US 1991-662393	A3	19910402
US 1993-70154	B1	19930601
US 1995-337414	B1	19950301
US 1996-714523	B1	19960916
US 1997-948448	B1	19971014

AB Chromatog. materials (SEX, SEXYL, and SEXY' [C = substantially noncompressible solid support; B = binding group; X = substantially nonionic hydrophilic spacer; Y = coupling group; Y' = activated coupling group; L = affinity ligand] are provided. The solid support is silica gel or other metal oxide or ceramic. A process for chromatog. sepn. and detection of a target substance with the title material is also provided. The chromatog. material is substantially free of nonspecific adsorption and is stable at high pH. PEG 600-propylsilica (4% .mu.m) was prepd. and activated with carbonyldiimidazole. The activated silica gel was reacted 1st with hydrazine, then with periodate-oxidized ovalbumin, and packed into a HPLC column. Serum from a rabbit immunized against ovalbumin was loaded onto the column. Following removal of nonbound serum components by washing, IgG was eluted with 2% HOAc contg. 0.1M NaCl. Identify of the eluted, purified IgG was confirmed by SDS-PAGE and Western blot anal.

BT 13883-39-1D, reaction products with silica gel

RL: ANST (Analytical study)

in prepn. of stationary phase for affinity chromatog., pH stability in relation to)

BN 13883-39-1 CAPLUS

TN Silane, (3-bromopropyl)trichloro- (6CI, 8CI, 9CI) (CA INDEX NAME)

Cl

Cl Si (CH₂)₃ Br

Cl

L46 ANSWER 34 OF 41 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1989:208920 CAPLUS

DOCUMENT NUMBER: 110:208920

TITLE: Manufacture of silanized hydroxyethyl methacrylate-ethylene glycol dimethacrylate copolymers and their use as solid supports for affinity chromatographic methods for use in medicine and pharmaceutical industry

INVENTOR(S): Schuessler, Werner; Coupek, Jiri; Hiepe, Falk

PATENT ASSIGNEE(S): Akademie der Wissenschaften der DDR, Ger. Dem. Rep.

ADDRESS: Ger. (East), 4 pp.

CODEN: GEXXA8

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY APP. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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ID 256720 A1 19850518 ID 1986-286583 19860129

OTHER SOURCE(S): MARPAT 110:208929

AB A process for the manufact. of chem. activated hydroxyethyl methacrylate-ethylene glycol dimethacrylate copolymer (I) in the form of shaped objects comprises the treatment of I with organosilanes $(\text{XSi}(\text{m})\text{nSiR}_4\text{-n})$ (X = amino, CO, CO₂, isothiocyano, epoxy, diazo, NCO, NO, sulfinydryl, halocarbonyl; R1 = alkyl, alkylphenyl, Ph; R = alkony, phenoxy, halo, m = 2-20, n = 1-3) and optionally with hetero- or homofunctional reagents. Macroporous I (Separon Hema-1000; particle size 15-25 μm ; inner surface 70 m^2/g ; mol. wt. exclusion 2 times 10⁶) (I) was incubated with 10% aminopropyltriethoxysilane (EB 1114) in 1:1 EtOH-H₂O at pH 2.5 for 6 h at 60.degree., washed with EtOH-H₂O and 0.1M phosphate buffer at pH 6.3, and the resulting gel was incubated with 5% glutaraldehyde for 2 h at 39.degree. and subsequently washed with phosphate buffer. The activated gel was incubated with human IgG (18.6 mg 1g/ml 0.1M phosphate buffer) for 2 h at 37.degree. and overnight at 4.degree.; 36.7 mg IgG/g (>95%) were bound on activated I.

IT 919-30-2DP, reaction products with Separon HEMA and glutaraldehyde
2602-34-8DP, reaction products with Separon HEMA and (aminopropyl)triethoxysilane and glutaraldehyde
EL: PPEP (Preparation)

manuf. of, as **solid support** for affinity chromatog.)

BN 119-10-1 CAPLUS

CN 1-Propanamine, 3-(triethoxysilyl)- (901) (CA INDEX NAME)

OE:

EtO Si (CH₂)₃ NH₂

OEt

BN 2602-34-8 CAPLUS

CN Silane, triethoxy[3-(oxiranylmethoxy)propyl]- (901) (CA INDEX NAME)

O

OEt

CH₂ C (CH₂)₃ Si OEt

OEt

L45 ANSWER 15 OF 41 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1989:150718 CAPLUS

DOCUMENT NUMBER: 110:150718

TITLE: Modification of silicel plate silica gel by amino groups of aminopropyltriethoxysilane and their use for separation of nucleic acids components

AUTHOR(S): Karpova, S. F.; Pupkova, V. I.; Khripin, Yu. I.

CORPORATE SOURCE: Sci.-Res. Design-Technol. Inst. Biol. Active Subst., Berdsk, USSR

SOURCE: Zh. Anal. Khim. (1989), 44(1), 127-30

CODEN: ZAKHA8; ISSN: 0044-4502

DOCUMENT TYPE: Journal

LANGUAGE: Russian

AB A simple method for modifying Silicel plate silica gel by amino groups of aminopropyltriethoxysilane involves submerging of the corn plates in 1-2% soln. of Me ethoxysilane in EtOH for 50-60 min. The plates are dried for 23-30 min at room temp. and washed once with EtOH. The sepn. selectivity

to these plates (for sugars, guanosine, and its phosphates) is not inferior when compared with Merck com. plates NH2-F254. Ribonucleotides, deoxyribonucleotides and impurities of nucleoside N bases and their phosphates were sep'd. by a mobile phase contg. AcOH and EtOH.

IT 73-40-5, Guanine 73-40-5D, Guanine,

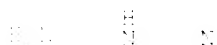
nucleosides

RL: ANST (Analytical study)

sepn. of, by TLC, aminopropyltrimethoxysilane-modified silica gel for)

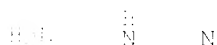
RN 73-40-5 CAPLUS

W 6H-Purin-6-one, 2-amino-1,7-dihydro- (9CI) (CA INDEX NAME)



RN 73-40-5 CAPLUS

W 6H-Purin-6-one, 2-amino-1,7-dihydro- (9CI) (CA INDEX NAME)



IT 919-30-2, Aminopropyltriethoxysilane

RL: ANST (Analytical study)

silica gel-modified with, for nucleic acid component sepn., by TLC)

RN 919-30-2 CAPLUS

W 1-Propanamine, 3-(triethoxysilyl)- (9CI) (CA INDEX NAME)



IT ANSWER 36 OF 41 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1989:17873 CAPLUS

DOCUMENT NUMBER: 111:17873

TITLE: Synthesis and characterization of highly stable bonded phases for high-performance liquid chromatography column packings

AUTHOR(S): Kirkland, J. J.; Glajch, J. L.; Farlee, R. P.

CORPORATE SOURCE: Exp. Sta., E. I. du Pont de Nemours and Co.,
Wilmington, DE, 19898, USA

SOURCE: Anal. Chem. (1989), 61(1), 2-11

CODEN: ANCHAM; ISSN: 0003-2700

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Two new classes of silane-modified silicas were synthesized and

characterized by chromatod. and spectroscopic techniques. These new bonded phases are significantly more stable toward hydrolysis than previous bonded-phase silicas; retention and column efficiency are comparable. The first type uses bifunctional (or "bidentate") silanes contg. one reactive atom on each of two silicon atoms that connect through a bridging group such as -O- or -(CH₂)_n-. The second type uses a monofunctional silane with at least two bulky groups (e.g., isopropyl) on the silane silicon atom. These bulky groups provide steric protection to the Si-O-Si bond formed between the silane and the surface of the silica. The new bonded-phase silicas exhibit highly reproducible gradient elution high-performance sepns. of peptides and proteins with low-pH mobile phases.

IT 116698-58-9DP, reaction products with silica gels
 117559-36-1DP, reaction products with silica gels
 RI: ANST (Analytical study); PREP (Preparation)
 (prepn. and characterization and evaluation of, as stationary phases in: HPLC for anal. with low-pH mobile phases)
 RN 116698-58-9 CAPLUS
 CN Silane, ethoxybis(1-methylethyl)[3-(oxiranylmethoxy)propyl]- (9CI) (CA INDEX NAME)

O OEt
 CH₂ (CH₂)₃ Si Pr-i
 i-Pr

RN 117559-36-1 CAPLUS
 CN 1-Propylamine, 3-(ethoxybis(1-methylethyl)silyl)- (9CI) (CA INDEX NAME)

OEt
 i-Pr Si (CH₂)₃ NH₂
 i-Pr

I45 ANSWER 37 OF 41 CAPLUS COPYRIGHT 2002 ACS
 ACCESSION NUMBER: 1988:4034:0 CAPLUS
 DOCUMENT NUMBER: 109:3469
 TITLE: Multicoated ferromagnetic chromium dioxide particles for use as **solid support** in heterogeneous immunoassays and bioaffinity separations
 INVENTOR(S): Lau, Hon Beng Phillip; Yang, Esther Koo; Jacobson, Edward Wayne
 PATENT ASSIGNEE(S): du Pont de Nemours, E. I., and Co., USA
 SOURCE: Eur. Pat. Appl., 26 pp.
 CODEN: EPXMDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACCL. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 24770	A1	19871014	EP 1987-103692	19870314
EP 24770	B1	19920112		
R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE				
CA 1269873	A1	19911001	CA 1987-531885	19870312

AT 1987-103692	E	19920215	AT 1987-103692	19870314
ES 1987-103692	A1	19930211	ES 1987-103692	19870314
JP 1987-14117	A2	19871305	JP 1987-14117	19870314
JP 1987-14117	B4	19921013		
DK 87-1367	A	19870919	DK 1987-1367	19870317
US 1986-341107			US 1986-341107	19860318
EP 1987-103692			EP 1987-103692	19870314

1987 CITY AMIN. INFO.:

GrO₂ particles are modified to have desirable characteristics as solid support materials for immunoassays or for bioaffinity sepsns. The particles are surface reduced and coated with protective silica and silane layers. Such treatment prevents hydrolytic degran. of the particles, and provides a functionalized coat. GrO₂ particles were surface reduced in an aq. soln. of NaHSO₃, then treated with NaAlO₂ and Na₂SiO₃ soln. contg. Na acetate, pH 4. The particles were coated with 3-aminopropyltriethoxysilane. The chromate leaching test of these particles gave an absorbance of 0.02 at 372 nm. The particle settling time was 8 min. In an immunoassay for the detn. of TSH, a serum sample was mixed with an enzyme-labeled anti-TSH (beta.-subunit monoclonal antibody (MAB), then mixed with a slurry of particles carrying anti-TSH (alpha.-subunit MABs). The immune complexes formed were removed magnetically. The complexes were resuspended in a substrate soln. and incubated, the absorbance of the quenched soln. was read. Human serum contg. 0, 5, 25, and 50 .mu. IU TSH/mL gave an absorbance of 0.1138, 0.1829, 0.4530, and 0.794, resp.

919-30-2, 3-Aminopropyltriethoxysilane 5089-72-5

RL: ANST (Analytical study)

surface-reduced magnetic chromium dioxide particles coated with silica and, for immunoassays and bioaffinity sepsns.)

919-30-2 CAPLUS

1-Propanamine, 3-(triethoxysilyl)- (9CI) (CA INDEX NAME)

DET

EtO Si (CH₂)₃ NH₂

DET

5089-72-5 CAPLUS

1,2-Ethanediamine, N-[3-(triethoxysilyl)propyl]- (9CI) (CA INDEX NAME)

DET

EtO Si (CH₂)₃ NH CH₂ CH₂ NH₂

DET

11 ANSWER 38 OF 41 CAPLUS COPYRIGHT 2002 ACS

ANVERSION NUMBER: 1983:403447 CAPLUS

DOCUMENT NUMBER: 109:3447

TITLE: Analytical method and kit for detecting and measuring specifically sequenced nucleic acid using flubrescent intercalation compounds and waveguides as solid support

INVENTOR(S): Sutherland, Ranaid Macdonald; Bromley, Peter; Gentile, Bernard

PATENT ASSIGNOR(S): Battelle Memorial Institute, Switz.

ABSTRACT: Eur. Pat. Appl., 30 pp.

CODEN: EFXN5W

DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 141 100	A1	19871111	EP 1987-EP141 100	19870410
RI: BE, DE, FR, GB, IT, NL, SE				
WO 87/00956	A1	19871119	WO 1987-EP234	19870502
W: AU, BR, DK, FI, JP, NO, US				
AU 177 114	A1	19871201	AU 1987-75888	19870502
JP 911 0231	T2	19890126	JP 1987-503871	19870502
FI 870 476	A	19871210	FI 1987-5770	19871230
NO 880 101	A	19880210	NO 1988-10	19880104
DK 880 006	A	19880217	DK 1988-6	19880104
PRIORITY APPL. INFO.:			EP 1986-510201	19860504
			WO 1987-EP234	19870502

AB A waveguide coated with single-stranded probe nucleic acids and carrying an internally reflected wave signal is contacted with an analyte soln. contg. denatured test DNA or RNA and fluorescent marker dye. Analyte nucleic acid with sequences homologous to that of the probe polynucleotide will hybridize therewith with concomitant binding of the fluorescent dye to the resultant duplex structures. Fluorescence resulting from the interaction of the wave signal at the waveguide/analyte interface with the signal generating centers created within the space probed by the evanescent component of the wave signal is detected and provides useful information on said sequences homologous to that of the probe nucleic acids. A plate waveguide with poly(dA) affixed (prepn. described for oligo on aminopropyl glass plate) was affixed into a flow cell and a base-line signal was obtained with buffer in the cell. Both ethidium bromide and poly-dT were mixed and injected into the flow cell and the reaction was monitored. In a control, only ethidium bromide was added. The monitoring reaction was effectively immediate and only specific interaction between double-stranded DNA was detected.

IT 919-30-2, 3-Aminopropyltriethoxysilane

EL: ANST (Analytical study)

(grafting of, on waveguide, for nucleic acid attachment, nucleic acid detn. in relation to)

EN 919-30-2 CAPLUS

CN 1-Propylamine, 3-(triethoxysilyl)- (9CI) (CA INDEX NAME)

Et

EtO Si (CH₂)₃ NH₂

Et

145 ANSWER 39 OF 41 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1988:34236 CAPLUS

DOCUMENT NUMBER: 145:34236

TITLE: Polymer-modified silica-based supports for gel permeation chromatography of biopolymers

AUTHOR(S): Ivanov, A. E.; Zigis, L.; Turchinskii, M. F.; Kop'ev, V. P.; Reshetov, I. D.; Zubov, V. P.; Kastrikin, L. N.; Lanskaya, N. I.

CORPORATE SOURCE: Inst. Biorg. Khim. im. Shemyakina, Moscow, USSR

SOURCE: Mol. Genet., Mikrobiol. Virusol. (1987), (11), 39-40, 1 plate
 CODEN: MGEVDU

DOCUMENT TYPE: Journal
LANGUAGE: Russian
AB Macroporous glass treated with γ -aminopropyltriethoxysilane and then with 1:1 copolymer of N-vinylpyrrolidone and acryloyl chloride was prepd. and used for sepn. of influenza, Sendai, etc. viruses. The sorbent possesses low absorption activity but had higher stability and better hydrodynamic properties than commonly used sorbents (Sepharose 4B, porous glass). The sorbent can be used repeatedly without regeneration (>20 times) and could be regenerated by washing with 1:1 iso-PrOH-H₂O, when the chromatog. properties are totally restored. The inert sorbent was also used for the sepn. of Escherichia coli tRNA from 70 S ribosomes.
11 919-30-2, γ -Aminopropyltriethoxysilane
RL: ANST (Analytical study)
Glass treatment with, copolymer modification after, for gel chromatog. support prepr.)
11 919-30-2 CAPLUS
11 1-Propanamine, 3-(triethoxysilyl)- (9CI) (CA INDEX NAME)

GE1

11 31-78(1)-NH₂

GE1

11 ANSWER 40 OF 41 CAPLUS COPYRIGHT 2002 ACS
JANUSION NUMBER: 1998:31015 CAPLUS
DOCUMENT NUMBER: 1998:31015
TITLE: Alkoxy silanes for the preparation of silica based stationary phases with bonded polar functional groups
AUTHOR(S): Engelhardt, Heinz; Orth, Peter
ACCRORATE SOURCE: Angew. Phys. Chem., Univ. Saarlandes, Saarbruecker, Fed. Rep. Ger.
SOURCE: J. Liq. Chromatogr. (1997), 10(8-9), 1999-2022
CODEN: JLCHDE; ISSN: 0143-1919
DOCUMENT TYPE: Journal
LANGUAGE: English
AB For prepn. of polar bonded phases with alkoxy silanes, an activator and a catalyst are required to achieve surface coverages comparable to those obtained with chlorosilanes. For activation a monolayer of H₂O on the silica surface is sufficient. The most active catalyst in many cases has been p-toluenesulfonic acid, however, for silanes with basic groups Et₃N gives better coverages. Silanes with polar groups tend to adsorb also with this group onto the surface thus preventing chem. binding via alkoxy groups. Long time experiences in the prepr. of amino phases, anion and cation exchangers and hydrophilic bonded phases for protein anal. are summarized.
11 35141-36-7D, reaction products with silica
RL: ANST (Analytical role, unclassified); ANST (Analytical study)
as stationary phase, for anion-exchange liq. chromatog.)
11 35141-36-7 CAPLUS
11 1-Propanaminium, N,N,N-trimethyl-3-(trimethoxysilyl)-, chloride (9CI) (CA INDEX NAME)

OMe

MeO Si (CH₂)₃ N⁺Me₃

OMe

● Cl⁻

IT 919-30-2D, 3-Aminopropyltriethoxysilane, reaction products with silica

EL: ARU (Analytical role, unclassified); ANST (Analytical study)
(as stationary phases, for liq. chromatog.)

EN 919-30-2 CAPLUS

CN 1-Propanamine, 3-(triethoxysilyl)- (9CI) (CA INDEX NAME)

OEt

EtO Si (CH₂)₃ NH₂

OEt

IT 71-30-7, Cytosine 73-40-5, Guanine

EL: ANT (Analyte); ANST (Analytical study)
(sepr. of, from nucleobases, chem.-bonded silica stationary phases for cation-exchange liq. chromatog.)

EN 71-30-7 CAPLUS

CN 2(1H)-Pyrimidinone, 4-amino- (9CI) (CA INDEX NAME)

O $\begin{matrix} \text{N} \\ \text{N} \end{matrix}$ NH₂

N

EN 73-40-5 CAPLUS

CN 6H-Purin-6-one, 2-amino-1,7-dihydro- (9CI) (CA INDEX NAME)

E2N $\begin{matrix} \text{H} \\ \text{N} \end{matrix}$ N

N NH

O

L45 ANSWER 41 OF 41 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1986:417540 CAPLUS

DOCUMENT NUMBER: 105:10543

TITLE: Manipulation of stationary-phase acid-base properties
by a surface-steric effect. Boronic
acid-saccharine complexation

AUTHOR(S): Lochmuller, C. H.; Hill, Walter B.

Searched by Barb O'Bryen, STIC 308-4291

1. AUTHOR: URWE: P. M. Gross Chem. Lab., Duke Univ., Durham, NC, 27706, USA
2. SOURCE: ACS Symp. Ser. (1986), 297 (Chromatogr. Sep. Chem.), 210-25
3. CODEN: ACSMC8; ISSN: 0097-6156
4. JOURNAL TITLE: Journal
5. LANGUAGE: English

AB The use of boronic acid-substituted, amine-modified silica gel stationary phases for the HPLC sepn. of saccharides and nucleosides under neutral conditions was studied. Five stationary phases were prepd. using Partisil 10. The capacity factors for selected saccharides and nucleosides on columns packed with these stationary phases are given. The presence of residual amine groups in the surface bound, silica-based phenylboronic acid phases lowers the apparent pKa of the acid groups. This surface buffering effect permits boronate-saccharide complexation to occur at much lower pH values than is typically the case.

17 102712-18-5D, reaction products with silica gel

EL: ANST (Analytical study)

as stationary phases for high-performance liq. chromatog. sepn. of nucleosides and saccharides)

EN 102712-18-5 CAPLUS

IN Boronic acid, [4-[[[3-(ethoxydimethylsilyl)propyl]amino]methyl]phenyl]- (9CI) (CA INDEX NAME)

OEt

CH₂ NH (CH₂)₃ Si Me

Me

HO B

OR

17 73-40-5

EL: ANT (Analyte); ANST (Analytical study)

high-performance liq. chromatog. st. on boronic acid-substituted amine-modified silica gel stationary phases)

EN 73-40-5 CAPLUS

IN 6H-Purin-6-one, 2-amino-1,7-dihydro- (9CI) (CA INDEX NAME)

H N N

N NH

919-30-2 18306-79-1

EL: R (Reactant); ANST (Analytical study)

reaction of, with silica gel)

EN 919-30-2 CAPLUS

IN 1-Propylamine, 3-(triethoxysilyl)- (9CI) (CA INDEX NAME)

OEt

EtO Si (CH₂)₃ NH₂

OEt

RN 18306-79-1 CAPLUS

CN 1-Propanamine, 3-(ethoxydimethylsilyl)- (9CI) (CA INDEX NAME)

OEt

Me Si (CH₂)₃ NH₂

Me

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